

Contingency, Problems, and *Shi*: Judgment Practices of the Historically Generative Scholarly Role and the Traditional Sage Figure

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Abstract

This philosophical essay examines how contingent, weak, marginal, and anomalous phenomena acquire intellectual or practical significance through judgment. Its comparison concerns two historically generated role configurations rather than two demographic classes. The first is a *historically generative scholarly role*: a relational position through which scholarly communities and wider social institutions can expect intergenerational reception, interpretation, preservation, transmission, revision, and extension of bodies of learning under concrete historical conditions. The second is the traditional sage figure, reconstructed as a heterogeneous cultural role oriented toward subtle change, timing, conduct, and situational responsiveness. Neither role guarantees wisdom, competence, or reliable intuition. The paper distinguishes scholarly problem formation from sage-oriented situational orientation while showing how their practices can overlap. It reconstructs an illustrative, non-exhaustive set of scholarly capacities and an account of mediated judgment in which aesthetic, epistemic, normative, historical, systemic, situational, and temporal considerations shape whether a contingency is investigated, preserved, communicated, acted upon, or left provisionally unresolved. Higher-order capacities, including knowledge migration and cross-domain translation, can emerge from combinations of these judgments and relational practices rather than constituting fixed traits. Calibration separates sensitivity to weak signals from warranted confidence and from the practical threshold for response. The resulting proposal, a practical epistemology of contingency, studies the interval between encounter and stabilized problem or decision, including the selective attention and preservation through which inherited problem spaces are formed. Classical materials are used interpretively; they do not provide empirical validation of divinatory or prognostic claims.

Keywords: contingency; problem formation; judgment; *ji* and *shi*; practical wisdom

Preprint Note

This preprint is part of an exploratory programme on contingency, judgment, problem formation, scholarly practice, practical wisdom, and education in the age of artificial intelligence. It develops distinctions through comparative philosophical analysis and treats its central categories as revisable working concepts. Classical Chinese terms are interpreted with attention to textual context and historical distance. Their use in this paper does not establish empirical validity for specific cosmological, prognostic, or divinatory claims.

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Status. This preprint presents a release-candidate version of a philosophical essay on contingency and judgment. The manuscript has undergone whole-paper revision for conceptual consistency, logical integrity, citation sufficiency, prose economy, and visual presentation. Its comparative terminology and educational implications remain open to criticism and later refinement, consistent with the paper’s treatment of the central categories as revisable working concepts.

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Statement on the use of language models. The exploratory discussions and preparation of this paper involved OpenAI’s ChatGPT. ChatGPT supported exploratory dialogue, source discovery followed by website verification, argumentative criticism, structural editing, and drafting in $\text{\LaTeX}$. The author selected the research questions, directed and approved the theoretical commitments and epistemic status of the claims, and bears sole responsibility for the manuscript, including its interpretations, arguments, conclusions, and errors. Authorship credit remains with the human author. The verification status and intended use of cited sources are recorded in the accompanying verification ledger.

1 Contingency as an Object of Judgment

This section establishes the analytical problem that governs the paper. Its objective is to explain why contingent encounters often do not arrive already classified as research problems, weak signals, practical signs, or irrelevant noise. Such classifications emerge through judgment. The discussion proceeds in five steps. It first distinguishes an encounter from the stabilized intellectual object that may later be formed from it. It then defines the scholarly side of the comparison relationally, as a historically generated social role rather than a status category. The next two steps compare problem formation in scholarly inquiry with situational orientation associated with traditional images of the sage and identify their overlap in experienced practice. The final step states the comparative method and the limits of the paper's claims. The argument is philosophical and interpretive; empirical research on expertise is used to discipline the comparison and to delimit the conditions under which claims about experienced judgment remain plausible.

1.1 The Pre-Stabilized Encounter

Human inquiry ordinarily begins after a considerable amount of selection has already occurred. A research article names an object, formulates a question, identifies a method, and places evidence within an intelligible field. A textbook goes further by presenting mature problems as stable members of a discipline. These forms are indispensable for cumulative inquiry, yet they can obscure an earlier stage at which the significance of an encounter remains unsettled. A surprising result, a shift in vocabulary, an unexpected silence in an organization, a repeated but minor measurement discrepancy, or an unfamiliar relation among previously separate phenomena may initially possess no fixed intellectual status. It may later become a problem, an indicator, a curiosity, a false alarm, or an event that disappears from attention.

John Dewey's account of inquiry provides one useful point of departure. In *Logic: The Theory of Inquiry*, an indeterminate situation does not arrive already constituted as a determinate problem. The situation becomes problematic through inquiry, and recognizing that inquiry is required is itself an early intellectual achievement [5]. This paper extends this intuition toward a comparative question. Before a contingency is assigned a stable role, some judgment is required about whether it merits attention, what kind of significance it might possess, and what mode of response would be proportionate to the available grounds.

This early interval can be described as a *pre-stabilized encounter*. The term does not imply that the world lacks structure before human attention, nor does it claim that significance is created freely by an observer. It identifies a more modest epistemic fact: the intellectual status of an encountered phenomenon is often underdetermined at the moment of encounter. Several interpretations and responses may remain live, and the transition from encounter to a stabilized object of inquiry requires selection.

Here *contingency* is likewise an epistemic and practical designation rather than a metaphysical thesis about whether an event could have occurred otherwise. It marks the unsettled relation between an encounter and the roles that it may later acquire in inquiry or action. This use keeps the paper focused on problem formation and orientation while leaving questions about ultimate ontology open.

Thomas Kuhn's analysis of anomaly offers a related lesson within the history and philosophy of science. An anomalous result acquires significance against a background of expectations, exemplars, instruments, and disciplinary practices, and many anomalies do not trigger conceptual reconstruction [12]. An anomaly therefore cannot be identified with novelty in a simple one-step relation. The capacity to notice a discrepancy and the decision to grant it sustained attention are themselves situated within a historically organized field of inquiry. This point is important for the present comparison because it locates scholarly sensitivity within a temporal and institutional environment and limits appeals to a free-floating cognitive gift.

1.2 Relational Definition of the Scholarly Role

The comparative scholarly object in this paper is a role rather than a demographic class, a career stage, or an honorific. Institutional seniority can place a person high within an academic power structure without establishing the quality of that person's judgment. Conversely, a person without senior rank can enact intellectually generative forms of scholarship. The analysis therefore requires a definition whose criteria do not presuppose the capacities that later sections seek to reconstruct.

Definition 1.1 (Historically generative scholarly role). A *historically generative scholarly role* is a historically constituted and socially recognized relational position in which relevant scholarly communities and wider institutions can expect an occupant to participate in the intergenerational reception, interpretation, preservation, transmission, revision, and extension of bodies of learning and ways of inquiry, while developing inquiry in response to concrete historical, spatial, institutional, and relational conditions and participating in the continuing development of collective knowledge across generations. Occupancy of the role can be enacted more or less well. Age, rank, title, prestige, and duration of career do not by themselves establish epistemic or practical authority.

The expectations attached to this role can be plural, contested, and historically revised; the definition does not presuppose a unified social consensus about what scholarship should become. Definition 1.1 is deliberately relational. The role acquires meaning through its position among inherited knowledge, learners, peers, institutions, publics and practical communities, material and technical infrastructures, and possible future forms of inquiry. Saussure's account of linguistic value offers a limited analogy: a sign acquires value through its differential position within a system rather than through an isolated self-contained substance [15]. The present reconstruction extends that relational intuition in two directions. The scholarly role is historical because both its surrounding relations and the expectations attached to it change over time. It is generative because enactments of the role can reproduce, redirect, combine, or transform inherited bodies of learning and thereby alter the problem spaces available to later inquiry. The analogy concerns relational position only; it does not reduce scholarly roles to linguistic signs.

The definition is intentionally thin with respect to competence. It does not stipulate that a role occupant already possesses historical depth, systemic vision, aesthetic sensitivity, normative responsibility, epistemic calibration, or wise timing. Those are possible capacities to be reconstructed later from the tasks and relations in which the role is enacted. Keeping the role definition separate from the capability analysis avoids using the later findings as premises of the definition.

The *traditional sage figure* is treated in a parallel but distinct way. It names a heterogeneous family of historically situated symbolic roles through which communities have represented exemplary orientation in conduct, relation, timing, and responsiveness to subtle change. The present paper does not assume that sagehood entails the generation of scholarship, nor that a sage figure and a scholarly role share one social function. Their comparison becomes useful where their practices of attention and judgment overlap despite different relational positions and expectations.

1.3 Problem Formation in Scholarly Practice

One recurrent scholarly transformation of contingency is problem formation. An incidental observation becomes intellectually generative when a researcher judges that it opens a question whose pursuit may reorganize description, explanation, interpretation, or evaluation. The crucial operation occurs before a fully articulated question exists. The scholar first registers that an encounter has enough salience to resist immediate dismissal.

Several modes of judgment can participate in this transformation. Aesthetic judgment may register elegance, tension, anomaly, unexpected simplicity, or the possibility of a deeper relation. Epistemic judgment may concern evidential quality, tractability, methodological accessibility, and the distinction between a reproducible pattern and an isolated irregularity. Normative judgment can enter when scarce scholarly attention is allocated among many possible questions. Historical judgment may locate the encounter within the genealogy of a field, while systemic judgment may ask whether several local changes

jointly indicate a reorganization of the larger problem space. These modes need not appear as explicit sequential tests. In experienced practice they may be partly tacit, mutually conditioning, and subject to later reconstruction.

This argument therefore uses *problem formation* in a stronger sense than the grammatical production of an interrogative sentence. A research problem is formed when an encounter is given enough structure to sustain disciplined inquiry while remaining open to revision. This stronger sense helps distinguish generative scholarly sensitivity from indiscriminate curiosity. Scholarly practice ordinarily requires selection among irregularities. Selective attention can develop through accumulated experience, disciplinary memory, comparative cases, and a sense of which unresolved tensions may repay inquiry; practical limits also restrict sustained investigation to a small subset of available irregularities.

The history of science illustrates why such selectivity matters. Kuhn's account emphasizes that normal research can generate many discrepancies, while only some acquire the persistence and significance associated with crisis or conceptual reorganization [12]. The relevant lesson for this paper is narrower than a general endorsement of Kuhnian historiography. Scholarly creativity depends partly on how anomalies are situated, preserved, connected, and judged before they receive a settled theoretical interpretation.

1.4 Incipient Change and Situational Orientation

A different transformation of contingency appears in classical vocabularies of incipient change, timing, and practical response. The *Zhouyi* commentarial tradition gives a concise formulation in its discussion of *ji* (幾), describing it as the subtle beginning of movement and associating the perception of such beginnings with timely action. One transmitted formulation states that *ji* is the “subtlety of movement” and that the exemplary person acts upon seeing it without waiting for the day to end [19]. The paper does not treat this passage as an empirical theory of prediction. It uses the passage as evidence for a philosophical image in which practical intelligence concerns changes that have begun but have not yet become fully manifest.

The associated term *shi* (勢) is semantically broad and historically variable. Modern comparative interpretations have rendered it through such ideas as disposition, configuration, propensity, potential, or the efficacy available from a developing arrangement [9]. These translations should not be collapsed into a single technical definition. For the limited purposes of this paper, *shi* names a family of concerns with how a configuration is developing and what possibilities or constraints arise from its current organization. The term therefore functions as an interpretive bridge to situational judgment, with its explanatory role kept local to the present reconstruction.

Within the traditional image of the sage, a contingent event can consequently be approached less as an invitation to formulate a new general problem and more as an early manifestation of a changing situation. A gesture, timing difference, altered phrase, ritual irregularity, movement of persons, environmental change, or institutional disturbance may be interpreted for what it indicates about the configuration in which action must occur. The corresponding practical questions concern orientation: whether to advance, withdraw, wait, speak, remain silent, intervene, or continue observation.

Contemporary scholarship on Confucian wisdom also cautions against treating the sage as an isolated possessor of detachable propositions. Roger Ames interprets Confucian wisdom through a processual and relational account of persons and conduct [1]. This paper does not adopt that interpretation as a complete account of classical traditions. It draws from it a methodological caution: a comparison between “the scholar” and “the sage” should attend to practices, relations, temporal orientation, and forms of conduct, keeping the focus on organized ways of judging rather than on competing stores of knowledge.

1.5 Overlap across Scholarly and Sage-Oriented Practice

The comparison becomes misleading if it hardens into a binary between persons. Accomplished enactments of the historically generative scholarly role can also include perception of changes in the developing situation of a field. A cluster of small terminological shifts, altered publication patterns, new

methodological combinations, changes in what emerging research communities find compelling, or repeated failures of an established explanatory framework can be experienced as evidence that the field's orientation is changing. Such perception may affect what the scholar studies, when a conjecture is made public, which collaborations are pursued, or whether an anomaly should be preserved without immediate theorization.

The converse overlap also matters. Practical reflection on an evolving situation can generate concepts and questions. The person who notices an incipient change may seek an explanation of the mechanism producing it, compare cases across time, revise inherited categories, or formulate a more general inquiry. Problem formation and situational orientation are therefore better treated as possible outputs of a common sensitivity to contingency than as exclusive properties of two human types.

Research on expertise supports the need for a further qualification. Naturalistic decision-making research documents how experienced practitioners can recognize patterns and act effectively under time pressure and shifting conditions [11]. Yet expert intuition is not reliable simply because it feels compelling. Kahneman and Klein argue that the likely validity of intuitive judgment depends importantly on the regularity of the environment and the opportunity to learn those regularities through experience and feedback [10]. This constraint is central to the present essay. Sensitivity to weak or incipient phenomena becomes epistemically valuable only when coupled with calibration, evidence, revisability, and restraint.

The implication is that mature judgment cannot be equated with maximal pattern detection. A person who assigns significance to every coincidence, irregularity, or weak signal may display sensitivity without discrimination. Mature practice requires a capacity to preserve possible significance while maintaining uncertainty about its interpretation. The relevant competence includes several responses: investigation, action, continued observation, explicit suspension, and dismissal. The quality of judgment lies partly in selecting among these responses under conditions in which significance has not yet stabilized.

1.6 Comparative Scope and Claim Status

The categories used in this paper are analytical role constructions. The historically generative scholarly role is defined by relational position and intergenerational function, not by an intrinsic inventory of virtues and not by institutional seniority. The traditional sage figure denotes a heterogeneous family of cultural role-images associated, in different traditions and periods, with exemplary orientation toward conduct, relation, timing, and subtle change. Neither category denotes a homogeneous historical population, and neither guarantees competence in any particular occupant or attributed exemplar.

The comparison is therefore modal and relational. It asks what forms of attention and judgment become visible when contingent encounters are transformed into scholarly problems, situational diagnoses, temporal orientations, or decisions to wait. This approach permits overlap, hybrid episodes, and failure without collapsing the roles into a single ideal person. A scholar can misread a field. A reputed sage can overinterpret coincidence. A novice can notice a consequential anomaly. Institutional position can amplify or suppress what becomes visible, and historical memory can preserve successful judgments more readily than failed ones.

The paper consequently separates three levels of claim. First, textual and historical claims concern how selected traditions describe incipient change, situation, and wisdom; these require source-specific interpretation. Second, philosophical claims concern the conceptual relations among contingency, attention, role, problem formation, orientation, and mediated judgment. Third, empirical claims concern the reliability of expert perception and action in particular environments; these require independent evidence. Movement across these levels will be made explicit rather than treated as automatic translation.

The subsequent sections develop this framework in greater detail. They examine scholarly problem formation, classical vocabularies of *ji* and *shi*, illustrative capacities that can support more accomplished enactments of the scholarly role, the mediation of multiple modes of judgment, and the role of deferred judgment in inquiry and action. The guiding proposition remains deliberately modest: contingent encounters can acquire different intellectual and practical roles through judgment, while the quality of their treatment depends on sensitivity to possible significance, disciplined uncertainty, and the relations within

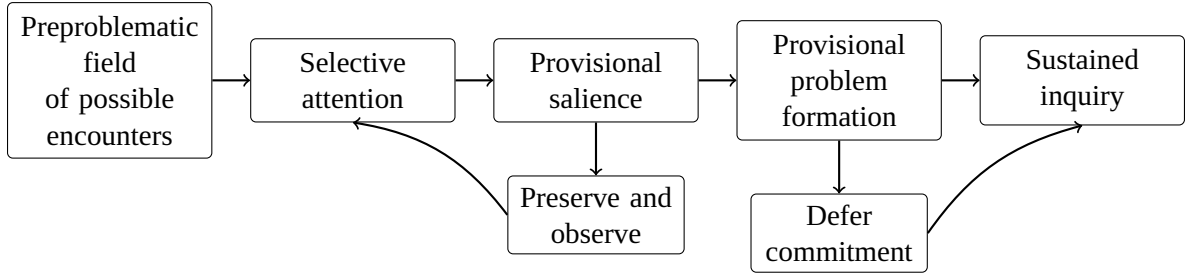


Figure 1: A non-deterministic filtering model of scholarly problem formation. The diagram distinguishes attention, salience, provisional problem formation, preservation, and commitment to sustained inquiry.

which judgment is exercised.

2 Selective Attention in Scholarly Problem Formation

This section develops the scholarly side of the paper’s comparative framework. Its objective is to explain how an encounter that has not yet acquired a stable intellectual status can become a problem worthy of sustained inquiry. The discussion proceeds through eight analytically distinct operations: exposure to a preproblematic field, attribution of salience, problem finding, aesthetic selection, normative allocation of attention, historical positioning, systemic reorganization, and preservation before commitment. The argument is philosophical and reconstructive. Research on problem finding, expertise, and scientific anomaly is used to constrain the reconstruction without treating any single empirical literature as a complete model of scholarly creativity.

Figure 1 presents the section’s organizing structure. The figure does not propose a deterministic sequence. Experienced inquiry can revisit earlier judgments, preserve several possibilities at once, or return an apparent problem to the field of unresolved observations. Its analytical purpose is to make visible the filters that are often compressed when finished scholarship is presented only through stabilized questions and answers.

2.1 The Preproblematic Field of Possible Inquiry

Scholarly work is usually encountered in a form in which the problem has already been named. Articles open with a research question or motivating gap; seminars begin from a topic; grant calls identify domains of relevance; textbooks arrange questions into established sequences. These forms support cumulative inquiry, yet they can obscure the much larger field from which scholarly problems are selected. At any moment a researcher is surrounded by observations, conversations, failed measurements, terminological shifts, institutional changes, marginal literatures, practical frustrations, and unexpected relations among concepts. Only a small proportion receive sustained intellectual attention.

The term *preproblematic field* refers here to this wider domain of possible inquiry before a particular encounter has been stabilized as a research problem. The term is epistemic: it marks a stage at which the scholarly status of an encountered phenomenon remains open while leaving the world’s underlying structure unspecified. Dewey’s account of inquiry is useful at this point because an indeterminate situation becomes a determinate problematic situation through operations of inquiry rather than arriving as a fully specified question [5]. This argument emphasizes an additional implication: the transition into problem form depends on prior judgments about what deserves to be held in attention long enough for articulation to occur.

The term *preproblematic* does not mean preconceptual or unmediated. Encounters are already shaped by language, instruments, learned distinctions, practical interests, and institutional settings. The distinction is relative: a phenomenon can be conceptually apprehended while its status as a research problem,

its relevant scale, and the form of inquiry it warrants remain unsettled. This qualification prevents the preproblematic field from being mistaken for a neutral “raw” world outside interpretation.

This distinction matters because a mature research problem already contains substantial intellectual work. It has a provisional object, a scale, a vocabulary, a relation to prior literature, an evidential horizon, and some expectation of what would count as progress. Treating such a problem as the natural starting point of inquiry risks hiding the judgments that produced these specifications. The preproblematic field is therefore analytically useful for recovering the stage at which several possible descriptions, questions, and responses remain available.

2.2 Salience before Articulation

An encounter can become intellectually generative before a researcher can state why it matters. A surprising empirical result may initially register as a vague disturbance. A concept may appear inadequate before its limitation can be formally described. A historical comparison may feel structurally suggestive before the shared relation has been named. A scholar with relevant, critically examined experience may also notice that several individually minor events seem to belong to a common change without yet possessing a defensible account of that change. In these cases, salience precedes complete articulation.

The paper uses *salience* in a limited functional sense: an encounter has provisional salience when a researcher allocates to it more sustained consideration than routine dismissal would require. This use remains neutral toward a comprehensive psychological theory of attention and identifies a practical threshold within inquiry. Crossing the threshold means that the encounter is retained, compared, revisited, discussed, recorded, or tested because its possible significance has become difficult to ignore.

Expertise can shape this threshold. Classic work by Chase and Simon on chess perception showed that players of different skill levels organized meaningful chess positions through different perceptual structures [3]. The evidential scope of that result remains a highly structured domain. Here it supports only a restrained point: accumulated domain experience can alter what patterns are available for perception and memory. Sensitivity within scholarly practice to a small conceptual inconsistency or an unusual conjunction of literatures may therefore arise partly from a history of learned distinctions that allows the encounter to stand out against a richly organized background.

Salience also remains fallible. Learned expectations can direct attention toward productive anomalies, while the same expectations can render other phenomena inconspicuous. The capacity to notice therefore develops together with characteristic forms of blindness. This dual possibility is one reason the paper treats selective attention as a site of judgment rather than as a neutral intake mechanism.

2.3 Problem Finding in Creative Practice

Research on creativity has long distinguished the discovery or construction of a problem from the solution of a problem supplied in advance. Getzels framed *problem finding* as a theoretically distinct component of creative activity [8]. Getzels and Csikszentmihalyi’s longitudinal study of art students likewise placed problem-finding behavior at the center of its analysis of creative work [7]. Merton’s earlier account of the “serendipity pattern” provides a closer analogue within research: an unanticipated and anomalous observation can become theoretically consequential when an investigator recognizes its strategic implications [13]. These sources arise from different domains and do not establish a universal law of scholarly innovation. Their relevance here is narrower: finished academic products can conceal the work through which an unexpected observation is retained, interpreted, and transformed into a problem worth pursuing.

For scholarly inquiry, problem finding can be reconstructed as a movement from unresolved salience toward a provisional structure of inquiry. A researcher begins to specify what is changing, what relation appears anomalous, which comparison is informative, what scale is appropriate, and what evidence could distinguish competing interpretations. The resulting problem is consequently more than a question sentence. It is a provisional organization of attention.

This organization can remain open at several levels. The object itself may change as inquiry proceeds. The relevant unit of analysis may shift from an individual to an institution, from a local mechanism to

a historical sequence, or from a static property to a process. A phenomenon initially understood as an empirical discrepancy may later be recast as a conceptual ambiguity or a normative conflict. Such revisions are not peripheral to problem formation. They show that the problem can be an evolving achievement rather than a fixed container into which evidence is inserted.

The distinction also clarifies why the same encounter can generate different research programmes. A sudden increase in the use of a technology in education, for example, can be formulated as a question about learning outcomes, institutional incentives, assessment validity, professional identity, inequality, historical change in the meaning of authorship, or the allocation of judgment between human and machine systems. The encounter underdetermines the problem. Problem formation supplies a selective mapping between the encounter and a tractable intellectual object.

2.4 Aesthetic Selection of Research Possibilities

The first selection among possible problems is sometimes experienced in aesthetic terms. Researchers describe certain questions as elegant, deep, beautiful, awkward, fertile, or structurally suggestive. Such language should be handled carefully because scholarly aesthetics is heterogeneous across disciplines and historical periods. This paper therefore uses *aesthetic judgment* as a local analytical category for sensitivity to form in a possible inquiry: simplicity, tension, unexpected connection, symmetry, asymmetry, compression, explanatory reach, or the felt promise that several fragments may belong to a more intelligible structure. The term does not import a complete theory of aesthetics or imply that these criteria are stable across disciplines.

Aesthetic judgment can operate before evidential sufficiency. A researcher may sense that two bodies of literature fit together in an illuminating way while remaining unable to justify the connection. A mathematical conjecture may appear promising because of structural elegance before proof exists. A historian may notice a recurrent configuration whose significance is still uncertain. In each case, aesthetic attraction can sustain attention long enough for epistemic evaluation to become possible.

This role gives aesthetic judgment a limited generative function by helping determine which possibilities survive the early scarcity of attention. Its contribution concerns selection rather than validation. A beautiful problem can be ill-posed, a formally elegant model can be empirically inadequate, and an aesthetically compelling pattern can be accidental. Aesthetic judgment therefore remains answerable to later epistemic constraints.

The same point helps explain differences among equally knowledgeable researchers. Two scholars can know much of the same literature and still disagree about which unresolved tension deserves years of work. Their divergence may reflect differences in what forms they experience as generative, which connections they regard as intellectually promising, and which kinds of simplification they find illuminating. Scholarly taste can therefore be understood partly as a cultivated pattern of aesthetic selection whose quality becomes visible only through its interaction with evidence, history, and subsequent inquiry.

2.5 Normative Allocation of Scholarly Attention

A second selection concerns worth. Intellectual interest and normative importance can coincide, but the two need not coincide in every case. Research attention is finite, and scholars allocate time among many questions that differ in social consequence, ethical urgency, scientific significance, personal meaning, feasibility, institutional reward, and expected contribution. Simon's classic analysis of information-rich organizations makes the general scarcity point explicit: increasing information can intensify the problem of allocating limited attention [16]. In scholarly practice, this allocation introduces normativity before the stage usually described as the application of knowledge.

Normative judgment enters whenever the researcher asks, explicitly or tacitly, whether a possible problem deserves scarce attention. The relevant values vary by field and project. A question may matter because it concerns severe harm, an excluded population, a neglected historical process, a foundational inconsistency, a fragile ecosystem, a public institution, or a theoretical dependency whose resolution would reorganize many later inquiries. Other questions can possess high technical interest while carrying

weaker claims on immediate attention. The ordering of these considerations remains context-dependent. Problem selection is partly an allocation of scholarly capacity within a field of competing possibilities.

The normative dimension also appears in what becomes visible as a problem at all. Institutions, funding systems, disciplinary prestige, available datasets, publication conventions, and inherited concepts can make some forms of suffering or uncertainty easier to articulate than others. A research community may therefore reproduce selective visibility even when individual researchers act conscientiously. Normative reflection on problem formation therefore includes attention to these background conditions, since consequential phenomena can remain outside the stabilized question space of a research community.

In this framework, normative judgment should remain distinct from moral certainty. A researcher can judge a question worthy of investigation while retaining substantial uncertainty about its causes, effects, or appropriate remedies. Normative importance can justify attention; it does not settle the empirical or conceptual content of the inquiry.

2.6 Historical Positioning of Salience

Problem formation is also historically conditioned. An encounter becomes salient against inherited concepts, unresolved controversies, institutional memories, technical capacities, and prior failures. Kuhn's treatment of anomaly illustrates this dependence within scientific practice: discrepancies acquire meaning relative to an organized field of expectations and exemplars [12]. This paper uses this observation more broadly to argue that scholarly salience has a temporal horizon. A phenomenon can appear trivial in one intellectual configuration and become central in another because the surrounding problem space has changed.

Historical judgment contributes by asking where a possible problem sits within this temporal horizon. The researcher may ask which earlier concepts were created to address related circumstances, what limitations emerged from those concepts, which alternatives were abandoned, and why a previously marginal question has become newly visible. This historical orientation can prevent novelty from being inferred merely from unfamiliarity. It can also reveal that a seemingly established problem was once an answer to a different configuration of concerns.

For scholars with sustained participation in a field, historical positioning may become partly practical. Such participation can provide access to remembered cycles of enthusiasm, failed programmes, terminological substitutions, methodological expansions, and institutional shifts. Such memory can support discrimination between a recurring fashion and a deeper reorganization. Its reliability remains contingent on the breadth of experience and the quality of comparison. Personal memory can also be selective. Historical judgment therefore benefits from documentary reconstruction and engagement with perspectives outside one's own trajectory.

2.7 Systemic Reorganization of the Problem Space

Some contingencies matter because they suggest that the relations among problems are changing. A local anomaly can remain local, while a cluster of anomalies may indicate that assumptions shared across several research areas are becoming unstable. New instruments can alter what is measurable; new social practices can change the object being studied; a conceptual innovation in one field can make previously separate problems commensurable; institutional change can redirect what evidence is available or rewarded. In such cases, the object of judgment is partly the structure of the problem space itself.

This systemic perspective is important for the comparison with situational judgment developed later in the paper. Scholarly practice can include perception of a change in the direction of a field through distributed signs: recurring questions appearing across specialties, unexpected convergence of methods, declining explanatory returns from established models, or changes in what emerging research communities treat as obvious. Such perception resembles an orientation toward developing configuration while remaining embedded in scholarly practice.

The inference should remain proportionate. Several coincident changes do not automatically constitute a new intellectual era. A systemic interpretation is a hypothesis about relations among local develop-

ments, and its credibility depends on comparative evidence, temporal persistence, plausible mechanisms, and the possibility of rival explanations. The mature response may therefore be to track the configuration without immediately announcing a transformation.

This capacity expands the meaning of problem formation. The scholar sometimes forms a problem about an object within an established field; at other times the scholar forms a problem about the field's own changing organization. The latter case brings scholarly creativity closer to the traditional concern with *shi*: the developing disposition of a configuration can itself become an object of inquiry and practical orientation.

2.8 Preservation before Commitment

Selective attention can precede conversion into a research project. Some encounters deserve preservation before commitment. A note, anomaly log, unresolved comparison, archive of examples, provisional diagram, or repeated observation can retain a possible problem while protecting inquiry from premature closure. Preservation is therefore an active scholarly operation with its own evidential and temporal rationale.

This operation is especially important when the encounter has high perceived significance and low interpretive stability. Immediate theorization under such conditions can force evidence into the first available frame. Immediate dismissal can erase a potentially generative irregularity. Preservation keeps the encounter accessible while allowing additional observations, historical comparison, methodological development, or conceptual clarification to accumulate.

The practice also gives a concrete form to epistemic humility. A researcher can record that an event appears significant without claiming to know its significance. The distinction separates attention from assent. It permits a provisional orientation such as: this deserves to remain visible; its interpretation remains open; future evidence may justify investigation, reclassification, or dismissal.

The section's central result can now be stated in scoped form. Scholarly problem formation can be understood as a selective transformation of the preproblematic field. Encounters become problems through layered judgments concerning salience, form, evidential possibility, value, historical position, systemic relation, and timing. Mature inquiry includes the capacity to preserve unresolved significance when these judgments have not yet converged. This account prepares the next section's examination of *ji*, *shi*, and situational orientation by showing that scholarly practice already contains temporal and configurational forms of judgment alongside the formation of explicit research questions.

3 Incipient Change within Situational Configuration

This section develops the classical side of the paper's comparative framework. Its objective is to clarify how vocabularies of incipient change, situational configuration, and timing can illuminate a mode of judgment that differs from, while overlapping with, scholarly problem formation. The discussion proceeds through textual interpretation and philosophical reconstruction. It first examines *ji* (幾) as a vocabulary for change that has begun without becoming fully manifest. It then treats *shi* (勢) as a historically variable family of ideas concerning configuration, positional efficacy, and developing advantage. A third step reconstructs a relation between local incipience and broader configuration without claiming that the classical sources present a single unified theory. The final parts consider practical orientation, timing, reversibility, and possible scholarly responses to changing configurations. Classical materials are used to identify forms of attention and judgment; they are not used as empirical validation of prognostication or divination.

3.1 Incipient Difference and the Temporal Horizon of *Ji*

In the *Zhouyi Zhengyi* passage used here, the vocabulary of *ji* directs attention to a temporal region in which change has begun without becoming fully manifest. The transmitted wording characterizes *ji*

through the subtlety of movement and associates seeing it with timely response [19]. The present essay treats that passage as a textual resource for reconstructing practical sensitivity to early differentiation. This local reading does not establish a single lexical meaning of *ji* across the full history of the term.

The relevant object of judgment is therefore temporally incomplete. An incipient change has already entered the situation, yet its later significance remains underdetermined. A slight alteration in conduct, a small shift in language, a change in the timing of an interaction, or a weak disturbance in an established pattern can belong to several possible futures. The difficulty of judgment lies precisely in this incompleteness. Early perception can create practical room for response, while early interpretation can also generate false confidence.

This temporal structure distinguishes sensitivity to *ji* from retrospective explanation. Retrospective narratives benefit from developments that have already selected among possibilities. Early judgment operates before this selection has been completed. It must therefore preserve a difference between observing an incipient variation and knowing what the variation will become. The distinction is essential to the paper's broader account of mature judgment. Sensitivity is valuable when it enlarges the field of possible attention; it becomes epistemically hazardous when incipience is treated as if it already contained a determinate future.

The *Zhouyi* passage also links knowledge of the subtle with knowledge of what later becomes manifest. The philosophical significance of this relation lies less in a promise of prediction than in a contrast of scales. A small change can sometimes belong to a larger process whose effects become visible only later. Practical judgment can therefore ask whether a local variation is isolated, recurrent, coupled to other changes, or situated at a point where consequences may amplify. These questions translate the classical vocabulary into a form that remains open to evidential correction.

3.2 Perception before Full Manifestation

The traditional image of the sage often attributes importance to phenomena that appear too small to command ordinary attention. Such an image can be reconstructed without assuming that small phenomena reliably disclose hidden outcomes. Its philosophical interest lies in the disposition to take early variation seriously enough to observe it further. The sage image thereby highlights a stage of cognition before stabilized diagnosis: something has changed, the change may matter, and the appropriate interpretation remains open.

This form of attention differs from indiscriminate suspicion. If every minor event is interpreted as a sign, sensitivity loses discriminative value. Perception of incipience requires a background against which variation can be recognized. Repeated participation in a practice, knowledge of its ordinary rhythms, and memory of earlier transitions can make some deviations more informative than others. An experienced diplomat may notice a change in wording because the prior language was highly standardized. An experienced laboratory researcher may notice an irregular trace because the instrument's normal behavior is familiar. An experienced teacher may notice a small alteration in classroom interaction because the local pattern has been observed across time. In each case, possible significance emerges relationally between variation and an acquired background.

The comparison with expertise research is useful at this point. Experienced practitioners can sometimes recognize consequential configurations rapidly, yet the reliability of such recognition depends on the structure of the environment and the availability of learning from feedback [11, 10]. The classical image of perceiving the subtle can therefore be retained as a model of attentional orientation while its epistemic authority is constrained by calibration. A weak signal deserves neither automatic dismissal nor automatic belief.

This reconstruction also clarifies the role of patience. Detecting an incipient variation need not imply immediate intervention. The practical response may consist of closer observation, preservation of evidence, quiet comparison, reversible preparation, or a decision to wait. Timeliness includes the possibility that the appropriate action at an early stage is to improve one's capacity to judge later.

Term	Textual emphasis used here	Analytical role in this paper	Primary caution
<i>Ji</i> (幾)	Subtle or incipient movement associated with timely recognition in the <i>Zhouyi</i> commentarial tradition	Attention to change before full manifestation; early differentiation within a temporal process	Incipience does not determine the later outcome and does not validate prognostication
<i>Shi</i> (勢)	Historically variable usages involving strategic configuration, circumstance, efficacy, or positional power	Attention to the developing arrangement within which possibilities, constraints, and leverage acquire practical significance	Distinct textual traditions should not be collapsed into a single universal definition

Table 1: Limited analytical roles of *ji* and *shi* in the present reconstruction.

3.3 The Historical Variability of *Shi*

The term *shi* has a wider and more heterogeneous history than this paper can reconstruct in full. Jullien’s comparative study uses the term to explore disposition, circumstance, potential, and efficacy across military, political, aesthetic, and other domains [9]. That breadth is analytically suggestive, yet it also creates a risk of treating several historically distinct uses as one concept. The paper therefore employs *shi* as a controlled interpretive family whose historically differentiated usages remain visible.

Classical strategic material illustrates one important use. In the opening chapter of the *Sunzi*, *shi* appears in connection with making use of advantageous circumstances and adjusting action to a developing situation [17]. The context is strategic and should remain so. Its relevance to this argument lies in the idea that effective action depends partly on the configuration of relations, constraints, timing, and available leverage, alongside an actor’s capacities.

A different use appears in the political thought associated with the *fa* tradition. Contemporary scholarship on that tradition describes *shi* in Shen Dao and Han Fei as positional power or the efficacy attached to political position, especially the ruler’s institutional location [14]. This usage is materially different from a general account of situational tendency. It shows why the term cannot be assigned one stable English equivalent across texts and domains.

Table 1 summarizes the limited interpretive roles assigned to the two vocabularies in this essay. The table distinguishes primary textual emphasis from this paper’s reconstruction and makes the relevant cautions explicit.

The historical variation is philosophically productive because it shifts attention away from isolated properties. A person’s capacity to act can depend on position, institutional authority, allies, timing, terrain, shared expectations, available information, and the current distribution of constraints. A phenomenon can therefore be judged partly through the configuration that gives it force. This configurational emphasis will later help explain why scholarly practice can include perception of changes in a field while remaining oriented toward inquiry.

3.4 Local Incipience within a Developing Configuration

The relation between *ji* and *shi* developed here is explicitly an analytical reconstruction. The classical sources are not treated as formulating a unified doctrine. The reconstruction assigns different scales to the two vocabularies. *Ji* designates the possible significance of an incipient variation; *shi* directs attention toward the broader configuration within which that variation may acquire force. The relation can therefore be expressed in ordinary language: a small change becomes practically meaningful when its location within a developing arrangement gives reason for increased attention.

This reconstruction avoids two symmetrical errors. The first is atomism, in which an isolated event is interpreted without regard to the relations that make it significant. The second is totalization, in which a proposed “trend” or “situation” absorbs every local event as confirming evidence. Mature judgment requires movement between scales. The observer asks whether a local change fits other observations,

whether those observations arise from partially independent sources, whether the proposed relation persists across time, and what evidence would weaken the interpretation.

A change in one diplomatic phrase, for example, may have little significance when the wording is routinely variable. The same change can deserve greater attention when it appears alongside altered scheduling, shifts in participation, changes in policy implementation, and parallel language from several actors. Even then, the resulting interpretation remains provisional. The broader configuration can make the local event more diagnostic without turning it into proof.

The same logic applies within scholarly life. One unusual paper rarely indicates a disciplinary transformation. A recurring pattern across journals, methods, training practices, funding priorities, conceptual vocabulary, and unresolved failures may justify the hypothesis that the field's configuration is changing. A scholar with relevant and corrigible experience can respond by altering reading priorities, preserving anomalies, developing new collaborations, or delaying commitment until the pattern becomes more stable. Such conduct occupies the boundary between problem formation and situational orientation.

3.5 Practical Orientation under Incomplete Foresight

Situational judgment concerns more than forecasting an outcome. Its practical object is orientation within a field of possibilities. An actor may need to decide whether to advance, withdraw, speak, remain silent, preserve optionality, acquire more information, or prepare for several futures. These decisions can be rational even when the future state cannot be predicted with confidence.

This distinction matters because the language of signs can easily be misread as a language of deterministic prediction. A more defensible reconstruction treats perceived incipience as a reason to reconsider one's orientation. The strength of the response should depend on the strength of the evidence, the consequences of error, and the reversibility of available actions. A weak but potentially consequential signal can justify a low-cost reversible preparation while failing to justify a high-cost irreversible commitment.

The practical importance of timing follows from the same structure. An action can be substantively reasonable yet poorly timed. Early action may preserve options in one setting and destroy trust in another. Waiting can improve evidence in one setting and allow a harmful process to become entrenched in another. Situational judgment therefore includes a temporal assessment of when additional information is likely to become available, when opportunities may close, and how the costs of action and delay evolve.

This temporal orientation also explains why restraint can be active rather than passive. To wait intelligently can require maintaining observation, protecting relationships, preserving resources, rehearsing alternatives, or creating conditions for later intervention. Such practices differ from simple indecision because they are organized around the expected evolution of the situation while preserving revisability.

3.6 Configurational Judgment in Scholarly Practice

The preceding reconstruction helps clarify why the historically generative scholarly role and the traditional sage figure should not be separated into opposing human types. Scholarly practice already contains forms of configurational and temporal judgment. A scholar with sustained, critically examined participation in a field may perceive that the meaning of a local anomaly depends on developments elsewhere: a method is losing explanatory return, adjacent disciplines are converging on a similar problem, a previously marginal population is becoming central to the field's normative concerns, or a technical innovation is changing what can be observed. The scholar may consequently judge the *timing* of inquiry as well as its content.

This form of maturity can alter practice in several ways. A researcher may begin a project before a topic becomes institutionally fashionable because several weak developments appear to be converging. Another may decline to formulate a grand theory because a seemingly decisive pattern has not persisted long enough. A third may preserve an anomalous observation across years until new instruments or concepts make investigation possible. These cases combine problem sensitivity with configurational judgment.

The overlap also works in the other direction. A person oriented toward practical situations can generate scholarly questions from perceived changes in configuration. A shift in institutional behavior may provoke a question about legitimacy; a new technological practice may reveal an unexamined assumption in education; a recurring diplomatic ambiguity may generate a conceptual problem about commitment or trust. Situational sensitivity can therefore become a source of problem formation rather than a separate alternative to it.

The distinction between the scholarly role and the sage figure remains useful at the level of relational function and practical emphasis. Scholarly practice tends to convert selected encounters into objects of sustained inquiry that can be publicly articulated, criticized, and accumulated. The sage image emphasizes orientation within changing circumstances, especially the perception of subtle differences, timing, and practical response. Mature judgment can move between these modes according to the object, stakes, and available evidence.

3.7 Epistemic Boundaries of Situational Sensitivity

The attraction of incipient and configurational judgment creates a corresponding need for restraint. Human observers can detect patterns in noise, retrospectively organize coincidences into coherent stories, and preserve successful intuitions more readily than failed ones. Cultural narratives of wisdom can intensify this asymmetry because memorable successes contribute more strongly to the image of the sage than unrecorded errors. The philosophical reconstruction developed here therefore requires an explicit boundary between sensitivity and warrant.

Several practices can maintain this boundary. Observers can record the initial signal before knowing the outcome, identify competing interpretations, separate direct observations from inferred relations, search for disconfirming cases, compare against ordinary baseline variation, and revise the interpretation when the expected development fails to occur. Where the environment lacks stable regularities or informative feedback, intuitive confidence should receive correspondingly less epistemic weight [10]. These practices preserve the attentional value of weak signals while reducing the tendency to convert them prematurely into narratives of necessity.

This boundary also protects the classical material from anachronistic validation. The paper does not infer that traditional prognostic practices become empirically warranted because modern fields study weak signals, expertise, or complex change. Nor does it infer that modern expertise reproduces a classical theory. The comparison operates at the level of philosophical problems: how attention is directed toward incomplete change, how local variations are related to broader configurations, how timing enters practical judgment, and how uncertainty can coexist with orientation.

Section 3 therefore adds a second transformation of contingency to the account developed in Section 2. Scholarly judgment can form a research problem from a selected encounter. Situational judgment can treat an encounter as possible incipience within a developing configuration and adjust orientation accordingly. The two transformations can overlap in accomplished practice. The next section examines that overlap directly by comparing scholarly and sage-oriented role configurations rather than mutually exclusive human types.

4 Configurations of Scholarly and Sage-Oriented Judgment

This section integrates the two transformations of contingency developed in Sections 2 and 3. Its comparative role is to examine how the historically generative scholarly role defined in Definition 1.1 and the traditional sage figure can organize attention and response differently while sharing some practices of judgment. The analysis does not infer capacities from status or role occupancy. It first specifies the unit of comparison, then reconstructs an illustrative capability architecture that may support more accomplished enactments of the scholarly role, examines derived capacities, and finally compares scholarly and sage-oriented configurations directly. The argument remains philosophical and reconstructive;

empirical expertise research constrains claims about learned perception, while classical materials remain interpretive resources.

4.1 Comparative Units of Judgment Configuration

A *judgment configuration* denotes a context-sensitive organization of capacities around an epistemic or practical task. Relevant capacities can include noticing, comparison, memory, historical placement, relational interpretation, systemic analysis, pattern recognition, aesthetic discrimination, normative evaluation, evidential assessment, timing, and choice of response. Their relative importance can change across episodes. Scholarly problem formation gives special importance to the production of a publicly investigable object. Sage-oriented situational practice gives special importance to maintaining an adequate orientation while the surrounding configuration continues to develop.

This unit of comparison accommodates substantial internal diversity. Mathematics, field biology, archival history, political theory, and experimental psychology organize attention in different ways. Diplomacy, medicine, organizational leadership, craft, and family life also supply different feedback structures, error costs, and temporal pressures. The paper therefore does not attribute a portable faculty of wisdom to a person simply because that person occupies a prestigious scholarly position or is represented through a cultural image of wisdom.

The empirical literature on expertise supports this restraint. Chase and Simon showed that chess expertise changes how meaningful positions are perceptually organized within a highly structured domain [3]. Naturalistic decision research documents experienced recognition in demanding real-world settings [11]. Kahneman and Klein emphasize that warranted intuitive confidence depends on sufficient environmental regularity and opportunities for learning from feedback [10]. These findings support a domain-sensitive account of cultivated judgment. They do not establish unrestricted transfer across domains.

4.2 Illustrative Capacity Architecture of the Scholarly Role

Definition 1.1 identifies a relational role and does not define successful enactment by a predetermined virtue list. The comparison nevertheless makes several capability families visible because recurring tasks of transmission, revision, problem formation, and historical response place characteristic demands on judgment. Table 2 presents examples. The list is illustrative rather than exhaustive, and none of the rows is individually necessary or sufficient for occupying the role.

Table 2 also leaves room for capacities that emerge from combinations of the listed families. *Knowledge migration* is one example. Moving a concept, method, or insight across periods, disciplines, languages, or institutional settings requires more than possession of the source knowledge. Historical depth helps identify what belonged to the source conditions; relational orientation identifies dependencies and interfaces; systemic judgment tracks effects of relocation within a different organization; epistemic calibration constrains claims of equivalence. The resulting migration can involve preservation, translation, recombination, or deliberate non-transfer. Cross-domain translation, generative comparison, and problem reframing can arise through similar combinations. These capacities are therefore better treated as emergent configurations than as additional fixed items in a closed catalogue.

The same logic applies to learning and transmission. A role occupant may transmit a body of learning faithfully while failing to regenerate it under changed conditions, or may produce novelty while losing historical continuity. More accomplished enactments coordinate inheritance with revision without assuming that every inherited element should be preserved or every innovation should be adopted. The capability architecture provides a vocabulary for examining that coordination while preserving the distinction between the role itself and the quality of its enactment.

Illustrative capacity family	Function within scholarly practice	Possible derived capacities
Historical depth	Situates concepts, problems, methods, and institutions within trajectories of formation, recurrence, displacement, and inheritance	Genealogical reconstruction; discrimination between recurrence and novelty; historically sensitive transfer
Relational orientation	Interprets objects through relations among concepts, persons, institutions, practices, audiences, and material conditions	Mediation; contextual translation; interface-sensitive reframing
Systemic judgment	Connects local changes across levels, feedbacks, infrastructures, and partially independent subsystems	Field-reconfiguration detection; cross-domain synthesis; structural comparison
Problem-forming and aesthetic sensitivity	Notifies anomalies, tensions, elegant compression, unexpected connection, or generative incompleteness before a question is fully articulated	Problem finding; conceptual reframing; exploratory synthesis
Epistemic calibration	Distinguishes salience from warrant and adjusts confidence to evidence, feedback quality, and error structure	Hypothesis discrimination; calibrated confidence; scope control
Normative responsibility	Allocates scarce attention in relation to consequence, justice, neglected experience, and foreseeable effects of inquiry	Agenda formation; responsible priority setting; attention to excluded problems
Situational and temporal orientation	Judges maturity, sequence, configuration, reversibility, and the timing of inquiry, communication, preservation, or action	Accountable deferral; staged response; preservation under uncertainty

Table 2: Illustrative and non-exhaustive capacity families that can support more accomplished enactments of the historically generative scholarly role. The table reconstructs capacities from recurring scholarly tasks; it does not define role occupancy by possession of these capacities.

4.3 Comparative Emphases of Scholarly and Sage-Oriented Practice

Table 3 preserves the difference in role function while leaving movement between practices open. A scholar may notice an anomaly, judge that the surrounding field is changing, preserve the observation, and formulate a research problem only after the relation becomes more stable. A person acting within a sage-oriented practice may begin with situational concern, find that available concepts fail to explain a recurring pattern, and convert practical unease into a sustained object of inquiry. The comparison therefore concerns organizations of attention, judgment, and response rather than an opposition between two kinds of person.

4.4 Stabilized Inquiry in Scholarly Practice

Scholarly judgment transforms selected contingencies by giving them enough stability for sustained public inquiry. The stabilization may take the form of a question, conceptual distinction, anomaly, conjecture, archive, case, empirical object, or methodological difficulty. Its value lies in making an unsettled encounter inspectable across persons and time. Once stabilized, the problem can be criticized, compared with alternatives, situated historically, inherited by later researchers, and revised through evidence or argument.

Problem finding is central to this process. Getzels treated problem finding as a distinctive component of creative activity [8], and the study by Getzels and Csikszentmihalyi illustrates creative work in which the problem itself is constructed through engagement with material [7]. Scholarly problem formation similarly requires decisions about what to preserve, how to describe the object, which scale matters, and what evidence could discriminate among interpretations. Dewey's account of an indeterminate situation becoming problematic through inquiry provides a compatible philosophical point of departure [5]. Kuhn's account of anomaly adds the historical reminder that disciplinary expectations shape which discrepancies receive sustained attention [12].

Public stabilization creates a productive tension. Cumulative inquiry needs relatively stable objects,

Analytical dimension	Historically generative scholarly role	Traditional sage figure
Relational position	Intergenerational mediation among inherited learning, present inquiry, scholarly communities, institutions, publics, and future problem spaces	Culturally represented orientation toward conduct, relations, timing, and changing circumstances
Primary transformation	Encounter becomes a problem, concept, archive, method, or programme suitable for sustained inquiry	Encounter becomes possible incipience within a changing situation
Public or practical form	Articulated question, concept, argument, method, archive, teaching, or research programme	Situated orientation, timing, restraint, preparation, counsel, or practical response
Temporal emphasis	Inheritance, revision, and long-horizon cumulative criticism across generations	Timing within an unfolding configuration and responsiveness to changing relations
Characteristic test	Evidence, criticism, comparison, replication where applicable, conceptual adequacy, and later revisability	Subsequent developments, revised situational evidence, practical consequences, and responsiveness to changing conditions
Characteristic risk	Reifying inherited problems, mistaking status for authority, or over-stabilizing a moving field	Over-reading weak signals, retrospective mythologization, or narrativizing noise as meaningful change
Area of overlap	Selective attention, historical-relational depth, uncertainty management, timing, preservation, and revisability	Selective attention, historical-relational depth, uncertainty management, timing, preservation, and revisability

Table 3: Comparative emphases of two historically situated role configurations. The columns identify different relational functions and recurrent practices; they do not imply mutually exclusive human types, equivalent social roles, or guaranteed competence.

yet successful problems can acquire institutional durability that makes their historical construction less visible. Researchers can then encounter an inherited problem space as if its divisions were supplied directly by the world. Daston and Galison’s history of scientific epistemic virtues is useful here because their account of “trained judgment” treats scientific seeing as cultivated within historically specific practices rather than as an ahistorical faculty [4]. This paper uses that precedent only at the level of method: accomplished scholarly practice can reopen stabilized objects when anomalies, historical comparison, systemic reorganization, or changing normative concerns warrant revision. Experience contributes when it increases this revisable depth rather than merely accumulating duration or status.

4.5 Situational Responsiveness in Sage-Oriented Practice

Sage-oriented practice organizes judgment around an unfolding situation. The classical vocabularies of *ji* and *shi* discussed in Section 3 make visible two relevant scales. *Ji* directs attention toward a change that has begun without being fully manifest. *Shi*, in the controlled use adopted by this paper, directs attention toward the developing configuration in which local changes acquire practical significance. Their relation is an analytical reconstruction across historically heterogeneous uses, not a claim that the classical sources provide one unified technical doctrine.

The output of situational judgment is frequently an orientation rather than a stabilized explanatory object. A person may decide to wait, prepare, speak, remain silent, seek further information, protect optionality, or make a reversible intervention. The relevant standard is responsiveness to the current configuration under incomplete knowledge. Such judgment can remain rational even when the future cannot be forecast confidently, because action can be calibrated to uncertainty, stakes, and reversibility.

This configuration can also benefit from cumulative experience. Familiarity with ordinary rhythms

can make a small departure visible; memory of earlier transitions can enlarge the comparison set; awareness of relationships and institutional constraints can change the interpretation of the same local event. The same experience can mislead when analogies become automatic or status weakens corrective feedback. The sage-oriented configuration therefore gains philosophical interest from its emphasis on incipience and timing, while its epistemic authority remains limited by the calibration conditions developed later in Section 6.

4.6 Shared Practices, Transitions, and Preserved Distinctions

The strongest overlap lies in selective attention, temporal depth, historical memory, relational-systemic comparison, and tolerance for incomplete articulation. Both configurations begin from more possible variation than a person can investigate or act upon. Both therefore require judgments about what deserves retention. Expertise can alter this discrimination by reorganizing what is perceptually available, although the legitimacy of resulting pattern recognition remains domain-dependent [3, 10].

Historical and temporal depth further connect the configurations. A scholar with relevant, critically examined experience can recognize that a new term repeats an older structure or that a familiar concept is acquiring a new institutional function. A practically experienced observer can compare a present transition with earlier cases while tracking the differences that limit analogy. Both can preserve an observation whose significance is not yet stable. In this sense, non-closure is a substantive capacity: the encounter can remain salient without being forced immediately into a problem, forecast, or decision.

Transitions between the configurations are common. A situational concern can become a research problem once repeated observations support a more stable formulation. Changes in educational practice, for example, may first require local adjustment and documentation; accumulated experience can later generate a question about what assessment measures when answer production becomes inexpensive. Movement can also occur in the opposite direction. A research programme can disclose a developing condition that requires communication, precaution, or practical preparation before the underlying mechanism is settled.

These transitions support circulation between stabilization and responsiveness. Scholarly articulation supplies concepts, criticism, and records that can discipline situational sensitivity. Situational attention exposes changes that inherited problem spaces may fail to register. Over-stabilization can preserve a problem after the conditions that gave it meaning have changed, while continual responsiveness can prevent observations from becoming cumulative knowledge. More accomplished practice coordinates both demands according to the local environment.

The comparison retains a substantive distinction. The historically generative scholarly role is socially positioned around intergenerational learning, inquiry, criticism, and revision. The traditional sage figure is not defined by the generation of scholarship and can be socially oriented toward conduct, ethical-practical orientation, counsel, or timing. Their overlap therefore does not require a synthetic human type. It requires only that some episodes recruit related practices of attention and judgment. Section 5 develops the internal structure of those practices through aesthetic, epistemic, normative, historical, systemic, situational, and temporal modes of judgment.

5 Mediation among Modes of Judgment

This section develops the internal architecture of mediated judgment introduced in Section 4. Its role is integrative. The preceding sections distinguished scholarly problem formation from situational orientation and showed how episodes can move between them. The present objective is to distinguish aesthetic, epistemic, normative, historical, systemic, situational, and temporal modes of judgment, clarify the limited authority of each, and explain how their partial assessments can be coordinated. The method is conceptual reconstruction. Mediation is developed through three operations—sequencing, constraint, and mutual correction—whose output is a provisional orientation open to revision.

Mode	Primary concern	Characteristic contribution	Characteristic excess
Aesthetic	Salience, form, tension, elegance, generative possibility	Makes a phenomenon, relation, or problem worthy of sustained attention before its significance is fully articulated	Confusing attractiveness, elegance, or surprise with truth or importance
Epistemic	Warrant, evidence, inferential adequacy, uncertainty	Regulates what can responsibly be claimed and how strongly it can be stated	Treating incomplete evidence as sufficient grounds for dismissing practically important uncertainty
Normative	Worth, responsibility, harm, justice, allocation of attention	Assesses whether a possible problem or response deserves scarce cognitive, institutional, or practical resources	Allowing urgency or moral importance to substitute for evidential support
Historical	Genealogy, recurrence, inheritance, path dependence	Places present salience within prior problem formations, conceptual lineages, and changing conditions	Forcing novelty into an inherited analogy or treating precedent as a script
Systemic	Interdependence, levels, feedback, structural relation, reorganization	Assesses how local changes relate to wider structures and whether several observations indicate reorganization of a larger whole	Treating a convenient totality as if it exhausted heterogeneous local relations
Situational	Configuration, constraints, affordances, changing relations	Assesses what the present arrangement makes possible, consequential, fragile, or actionable	Over-reading local configurations or narrating weak signals as coherent trends
Temporal	Maturity, sequence, pace, horizon, timing	Judges whether to investigate, communicate, act, preserve, revisit, or wait at a particular stage	Mistaking delay for prudence or immediacy for necessity

Table 4: Seven modes of judgment used in the paper’s reconstruction of mature orientation. The modes are analytical functions that interact in practice, and their characteristic excesses motivate mediation.

Table 4 separates the modes analytically. A single episode can activate several at once. An unexpected regularity may appear aesthetically compelling, evidentially weak, historically familiar, normatively important, systemically connected to wider change, situationally amplified by current institutions, and temporally immature for publication. Mediated judgment depends partly on keeping these assessments distinct long enough to understand their relations.

The seven-mode list is functional rather than exhaustive. Other projects may need additional distinctions, and some domains may reasonably subdivide or recombine the modes used here. The paper retains this set because each mode performs a different task in the present reconstruction and because their conflicts illuminate why salience, warrant, value, configuration, and timing cannot be collapsed into a single judgment.

The mode taxonomy is also not isomorphic to the capability architecture in Table 2. Relational orientation, for example, is treated there as a cross-cutting scholarly capacity rather than as an eighth judgment mode because each mode assesses an object within relations of some kind. Higher-order capabilities can emerge through combinations of modes and practices. Knowledge migration can couple historical, relational, systemic, and epistemic work; preservation under uncertainty can couple epistemic, situational, and temporal judgment. The distinction prevents an illustrative capability list from becoming a closed psychology of the scholar.

5.1 Judgment Modes and Limited Authority

A *mode of judgment* denotes a recurrent way of assessing an encounter relative to a particular dimension of concern. The term does not name a self-contained psychological faculty. It marks differences in the object of assessment and in the conclusions that the assessment can support responsibly.

Aesthetic judgment contributes to salience formation. The term retains the local analytical sense introduced in Section 2; it does not designate one comprehensive aesthetic faculty. In scholarly practice it can register elegance, broken symmetry, compression, conceptual economy, unexpected connection, productive tension, or the felt possibility of a deeper relation. Such responses can explain why one anomaly is retained while many others are dismissed. Their authority is limited: aesthetic attraction can nominate an object for attention, but it does not establish evidential warrant.

Epistemic judgment concerns what evidence, argument, or method supports. It regulates transitions from observation to claim, from analogy to inference, and from local evidence to wider generalization. Research on intuitive expertise is relevant because reliable pattern recognition depends on the structure of the learning environment and the availability of informative feedback [10]. Epistemic judgment therefore constrains confidence even when an encounter is aesthetically striking or practically urgent.

Normative judgment concerns worth and responsibility. It enters problem formation early because attention is scarce. Researchers and institutions distribute time, funding, access, prestige, data collection, and interpretive labor across a much larger field of possible inquiry. Normative judgment asks how those allocations relate to harm, justice, neglected experiences, public importance, intellectual responsibility, and the value of understanding. A normatively important problem can still remain empirically inaccessible or methodologically premature; its importance and its evidential status belong to different dimensions.

Historical judgment locates a present encounter within trajectories of concepts, institutions, methods, disputes, and previous attempts at solution. It can reveal that an apparently new idea repeats an older difficulty, that a familiar term has acquired a new function, or that a marginal problem has a history of exclusion from the recognized problem space. Its authority is comparative: historical depth enlarges the set of relevant cases while leaving present differences open.

Systemic judgment examines interdependence across components, levels, feedback relations, and structural interfaces. It becomes important when several local observations appear to belong to a wider reorganization. A change in a method, institution, technology, or vocabulary may be amplified, damped, or redistributed elsewhere in the system. Systemic judgment therefore helps an inquirer or practitioner ask whether local salience has wider structural significance. Its main discipline is plural scaling: the proposed whole must remain open to heterogeneity, competing levels, and partial independence among observations.

Situational judgment concerns the action-relevant configuration at a particular moment. It attends to relations among actors, institutions, technologies, constraints, incentives, dependencies, material conditions, and available responses. This mode is closest to the paper's reconstruction of sensitivity to *shi*. It asks what the present arrangement permits, threatens, or makes fragile. Temporal judgment adds maturity, sequence, pace, and horizon: whether a problem is ready for public stabilization, whether action can await more evidence, whether delay will close an opportunity, and when an unresolved observation should be revisited. Preservation and accountable deferral, developed in Section 7, are substantive outputs of this temporal assessment.

The seven modes therefore have limited authority. None can simply substitute for another. Aesthetic appeal does not supply evidence; evidence alone does not allocate social importance; normative urgency does not demonstrate causation; historical analogy does not settle present similarity; systemic coherence does not establish a unique totality; situational interpretation does not guarantee a forecast; timing does not determine substantive value. Mediation begins by maintaining these limits.

5.2 Aesthetic and Normative Selection

Aesthetic and normative judgment deserve special attention because both shape the problem space before inquiry has reached mature evidential form. A researcher can sense that a relation is unusually elegant or generative before explaining why. The relevant aesthetic vocabulary includes beauty but is not confined to it. Symmetry, broken symmetry, economy, depth, compression, tension, and unexpected fit can all reorganize attention. In some fields, experienced taste may operate tacitly because repeated exposure has built a repertoire of forms that are difficult to reduce to explicit rules.

Aesthetic salience is therefore generative and defeasible. It can motivate preservation, comparison, or exploratory formalization; later epistemic judgment can show that the pattern was accidental or ill-posed. The distinction matters because demanding full evidential justification at the first moment of attention would eliminate an important source of problem generation, while granting aesthetic response the authority of proof would inflate salience into truth.

Normative judgment performs a related selection function through a different standard. The preproblematic field contains more lived difficulties, anomalies, conceptual tensions, and possible harms than any person or institution can investigate. Selection is unavoidable. Normative judgment asks whether inherited allocations of attention deserve continuation and whether neglected phenomena warrant greater cognitive or institutional resources. It can elevate questions with low prestige but high consequence, or restrain a compelling line of inquiry when foreseeable harms or extractive relations become material to the method.

This distinction becomes especially important in fast-changing domains. A possible harm can justify monitoring, precaution, or priority research before a stable causal account exists. The response can be proportionate to uncertainty while categorical assertion remains deferred. Normative urgency can therefore change the allocation and timing of attention while epistemic judgment continues to govern the strength of factual claims.

5.3 Historical, Systemic, Situational, and Temporal Context

Historical judgment reintroduces the genealogy that mature books and disciplines often compress. The questions available to a researcher are products of earlier selections, exclusions, instruments, institutional interests, and conceptual settlements. Historical depth can therefore change present salience by showing how a problem became recognizable and which alternatives were lost or marginalized along the way. It also disciplines novelty claims by identifying recurrence without assuming identity.

Systemic judgment connects this genealogy to wider organization. A field contains methods, journals, infrastructures, funding arrangements, training practices, prestige hierarchies, neighboring disciplines, and unresolved anomalies. Changes across several of these dimensions may indicate a reorganization that no single observation can establish. The systemic task is to compare local changes across relations and levels while resisting the temptation to absorb every event into one total narrative.

Situational and temporal judgment then specify the local posture within such a developing configuration. The same intervention can be useful early, ineffective later, or harmful after relations have shifted. The same weak signal can deserve private preservation at one stage and public communication at another. The classical vocabulary reconstructed through *ji* and *shi* makes this coupling visible: incipient differentiation acquires practical significance through its location in a developing configuration and through the timing of possible response. Section 3 uses this relation interpretively and keeps deterministic prediction outside the framework.

These modes also guard against hindsight compression. Once a transition is obvious, earlier observations can appear more diagnostic than they were prospectively. Records of provisional assessments, rejected alternatives, and reasons for waiting preserve the uncertainty that actually structured the earlier decision. Section 6 develops this problem in detail.

5.4 Mediation through Sequencing, Constraint, and Mutual Correction

Mediation matters because the seven modes can support different provisional orientations. The paper proposes three recurrent operations.

Sequencing concerns the order in which judgments enter an episode. Aesthetic salience may arise first and be followed by historical comparison and epistemic testing. Normative concern may direct attention toward a neglected phenomenon before its conceptual structure becomes clear. A situational change may trigger preservation, with formal problem formation occurring later. Mediated judgment therefore includes judgment about the sequence of assessment itself.

Constraint occurs when one mode limits the permissible output of another. Epistemic judgment can constrain the strength of a claim generated by a compelling pattern. Normative judgment can constrain a research method whose evidential promise depends on unacceptable burdens. Temporal judgment can limit disclosure when evidence is immature or limit delay when postponement would eliminate an important option. Constraint changes the form in which a motivating judgment can guide conduct.

Mutual correction occurs when one mode reveals a blind spot in another. Historical inquiry can show that an elegant formulation inherits an exclusion. Systemic analysis can show that a local interpretation neglects feedback elsewhere. Situational judgment can reveal that an earlier successful intervention no longer fits changed relations. Normative analysis can reveal that prestige has distorted the allocation of attention. Epistemic criticism can show that an urgent pattern lacks support. Aesthetic judgment can suggest that an inherited conceptual scheme admits a more generative organization.

These operations preserve a plurality of defeasible considerations. The framework supplies no common metric that converts elegance, evidence, justice, historical fit, systemic relation, situational relevance, and timing into one scalar score. Much of the work of judgment consists in keeping their different claims visible while finding a response that is proportionate to the local configuration.

Definition 5.1 (Mediated judgment). In this paper, *mediated judgment* is a provisional orientation produced through the coordination of partially irreducible modes of assessment. Mediation may sequence, constrain, or mutually correct aesthetic, epistemic, normative, historical, systemic, situational, and temporal considerations. Its output can be a claim, research problem, practical response, preservation decision, provisional communication, or justified deferral. The definition does not imply that the modes are exhaustive or that their conflicts admit a context-independent resolution rule.

Definition 5.1 emphasizes revisable orientation. A person may investigate while suspending action, act cautiously while suspending a strong causal claim, preserve an observation before naming a problem, or abandon an attractive formulation because its evidential or normative costs have become too high.

5.5 Conflict Cases and Provisional Orientation

Several recurrent conflicts illustrate the framework. Aesthetic promise can coexist with epistemic weakness; the appropriate response may be preservation and discriminating tests. Normative urgency can coexist with causal uncertainty; monitoring, reversible intervention, and transparent communication may be justified while stronger claims remain open. Historical familiarity can coexist with situational difference; precedent then supplies hypotheses to inspect, accompanied by explicit attention to changed relations. Institutional pressure can conflict with temporal maturity; rapid action can be justified when delay is costly and the action remains corrigible, while public stabilization can be deferred when evidence is too immature.

A further conflict concerns disciplinary significance and wider normative significance. A technically central question within a field can be peripheral to the broader responsibilities that motivate a research programme. A socially important problem can also exceed the competence or methods of a particular discipline. Mediation can respond through collaboration, reframing, preservation for later work, or an explicit statement of present limitation. Intellectual limitation thereby becomes information about scope and orientation.

These cases show that maturity cannot be identified with decisiveness or speed. The broader task is to produce an orientation proportionate to reasons, uncertainty, stakes, and time. That orientation can include action, inquiry, communication, preservation, or deferral.

5.6 Mediation as a Learned and Revisable Practice

Mediation is cultivated through cases, criticism, historical study, methodological training, practical responsibility, and records of earlier error. A role occupant can become better at recognizing when aesthetic excitement outruns evidence, when methodological caution becomes avoidance, when a systemic interpretation suppresses local difference, or when a changing situation requires preservation before explanation.

Feedback across the modes is uneven. Epistemic judgments can sometimes receive direct correction through failed predictions, divergent replications, or refuted arguments. Normative judgments involve contested values and distributed consequences. Historical judgments can change with new archives or interpretations. Systemic and situational judgments often receive delayed and confounded feedback. Temporal judgments are especially difficult to evaluate because counterfactuals about acting earlier or waiting longer are rarely observed cleanly. These differences caution against generalized confidence in intuition even among experienced persons [10].

Revisability is consequently a property of mediation itself. Mature practice retains traces of why attention was allocated, why a problem was formulated in a particular way, why action was delayed, and what observations would justify revision. Such traceability turns experience into inspectable learning and connects private sensitivity to public criticism.

Section 5 therefore supplies the internal mechanism for the paper's non-binary comparison. The historically generative scholarly role and sage-oriented situational practice can overlap because episodes within both can coordinate several forms of judgment. Their emphases differ, while each benefits from the capacity to let one assessment qualify another. The next section examines the epistemic fragility of this capacity: sensitivity to weak signals can support insight, but it can also generate false patterns, hindsight narratives, and unwarranted confidence.

6 Calibration under Pattern Uncertainty

This section examines the epistemic discipline required by the pattern-sensitive judgment developed in Sections 3–5. Its role is corrective and methodological. Sensitivity to anomalies, weak signals, incipient changes, and changing configurations can support discovery and timely orientation, yet the same sensitivity can also generate false associations, retrospective narratives, and confidence unsupported by the learning environment. The objective is therefore to specify calibration as a relation among sensitivity, error, feedback, and revisability. The discussion proceeds through conceptual analysis informed by experimental work on judgment under uncertainty, illusory correlation, hindsight bias, and the conditions of intuitive expertise. It concludes by identifying practices of epistemic restraint that preserve responsiveness without converting salience directly into belief.

Table 5 frames calibration as disciplined responsiveness supported by explicit safeguards. A person who systematically ignores weak signals can be poorly calibrated even if that strategy minimizes false alarms. A person who assigns significance to nearly every anomaly can also be poorly calibrated even if some interpretations later prove correct. The relevant question is how a judgment practice relates confidence and response to the evidential structure, error costs, feedback conditions, and revisability of the situation.

6.1 Signal Sensitivity under Ambiguous Evidence

Pattern-sensitive judgment operates under an unavoidable ambiguity. Before an anomalous observation has been investigated, its significance is underdetermined. It may be an early indication of a develop-

Calibration hazard	Characteristic distortion	Disciplinary response
False pattern attribution	Salient, distinctive, or associatively connected events are interpreted as a stable relation without adequate support	Separate observation from interpretation; seek comparison cases; preserve rival explanations
Missed weak signal	A low-frequency or weakly expressed change is discarded because it does not yet fit an established problem space	Preserve anomalous observations; revisit them across time; examine whether independent evidence accumulates
Hindsight reconstruction	A realized outcome makes earlier cues appear more coherent, diagnostic, or inevitable than they were prospectively	Maintain prospective records of uncertainty, alternatives, and confidence before outcomes are known
Expertise overextension	Reliable intuition in one environment is generalized to domains with weak regularity or poor feedback	Specify the learning environment; distinguish transferable method from domain-specific pattern recognition
Normative amplification	High stakes or moral urgency increase confidence in a factual interpretation beyond the available evidence	Separate the warrant for precaution or attention from the warrant for causal or predictive claims
Premature narrative closure	Multiple ambiguous observations are organized into a single trajectory before discriminating evidence is available	Retain unresolved branches; identify observations that would support revision; prefer reversible responses where feasible

Table 5: Characteristic calibration hazards in pattern-sensitive judgment and corresponding forms of epistemic discipline. The safeguards are analytical and their application remains context-dependent.

ing structure, a local irregularity, a measurement artifact, an artefact of selective attention, or a chance conjunction. The capacity to notice therefore precedes the capacity to know what has been noticed.

This ambiguity creates at least two error directions. One is a *false alarm*: an observer attributes durable significance to a pattern that available evidence does not support. The other is a *miss*: an observer discards an early or weak indication that later becomes consequential. These errors do not generally have equal costs. In a low-stakes research setting, tolerating many speculative observations may be inexpensive if claims remain clearly provisional. In a medical, diplomatic, ecological, or safety-sensitive setting, both delayed recognition and excessive alarm can impose serious costs. Calibration therefore relates evidential uncertainty to the form of response, with sensitivity and conservatism weighted according to the local error structure.

Research on judgment under uncertainty provides one reason for caution. Tversky and Kahneman described several heuristics that can be economical and useful while also generating systematic errors in probability judgment [18]. This paper does not treat that programme as an exhaustive theory of judgment. Its relevance is narrower: experienced confidence and compelling pattern recognition do not by themselves establish that the inferred relation is well supported. A disciplined account of mature judgment must preserve a space between noticing a possible pattern and endorsing it as a reliable description of the world.

This space is particularly important for the paper’s comparison between scholarly problem formation and sage-oriented situational sensitivity. Both practices can benefit from receptivity to events that do not yet fit an established conceptual scheme. Both can also become vulnerable to confirmation if every subsequent event is interpreted through the initially salient pattern. Calibration therefore requires an architecture in which observations can remain meaningful enough to preserve while their interpretation remains revisable.

6.2 Associative Coherence within Pattern Attribution

One source of false pattern attribution is associative coherence. Events that are vivid, distinctive, culturally connected, or conceptually suggestive can feel related even when the observed co-occurrence does not support the strength of the perceived relation. Chapman and Chapman introduced the term *illusory*

correlation for systematic errors in which observers report correlations between classes of events beyond what the observations warrant [2]. Their experiments were conducted in a specific psychological setting, and this paper does not generalize the experimental design directly to scholarly or classical judgment. The narrower lesson is that perceived relational structure can be partly produced by the observer's associative expectations.

This possibility matters for any practice that treats unusual conjunctions as potentially significant. An unexpected phrase, institutional change, market movement, diplomatic gesture, weather event, or behavioral anomaly can acquire salience because it resonates with an existing interpretive schema. The schema may be useful. It may help an experienced observer identify a relation that a novice would miss. It may also make some pairings easier to remember, connect, and narrate than others. Sensitivity and projection are therefore not separated by phenomenology alone. A pattern can *feel* diagnostic in both cases.

The relevant discipline is comparative. An observer can ask whether similar cues occur when the suspected process is absent, whether disconfirming cases are being preserved with equal care, whether the same interpretation would have been generated before the outcome became known, and whether independent observers using different conceptual vocabularies identify a related change. These questions do not eliminate interpretation. They expose an interpretation to alternatives.

For scholarly practice, the implication is that problem generativity and evidential strength should remain distinguishable. A striking association can be an excellent reason to formulate a question while remaining a poor reason to accept an answer. For situational practice, the implication is parallel. A conjunction can justify heightened attention or reversible preparation while remaining insufficient for a deterministic forecast. Mediation allows the same encounter to support different levels of response without forcing them into a single confidence judgment.

6.3 Retrospective Coherence after Outcome Knowledge

Calibration becomes especially difficult after an outcome is known. Once a crisis occurs, a theory succeeds, an institution collapses, a political alignment changes, or a research programme becomes influential, earlier events can appear to have pointed toward that outcome with greater clarity than was available prospectively. Fischhoff's experiments on outcome knowledge showed that knowing how events turned out can change judgments about how likely the outcome had appeared and how relevant earlier information seemed [6]. The result is important for this paper because both scholarly histories and traditions of practical wisdom are often narrated retrospectively.

Retrospective narration can compress uncertainty. A sequence that originally contained several plausible trajectories may later be told as a coherent progression in which the decisive signs were already visible. The observer who had noticed one of those signs can then appear exceptionally prescient, while unrecorded false alarms and abandoned interpretations disappear from the narrative. A tradition can similarly preserve successful readings more readily than unsuccessful ones. The epistemic problem is therefore not simply individual memory. It concerns the selective preservation of judgment episodes.

This problem is especially acute when evaluating the figure of the sage. A story in which a wise person perceives a future transformation from a minor sign can carry philosophical value as an image of attentiveness, timing, or cultivated discernment. Its existence does not by itself establish the empirical reliability of the predictive practice represented in the story. This paper therefore treats such material primarily as evidence about ideals of judgment and orientation unless independent evidence supports a stronger empirical conclusion.

The same restraint applies to occupants of scholarly roles. Histories of discovery often foreground the anomaly that eventually mattered and compress the many observations that led nowhere. A mature epistemology of contingency should resist converting successful retrospective selection into a general claim that significant contingencies announce themselves clearly to expertise. Prospective records are one way to preserve the uncertainty that retrospective success tends to erase.

6.4 Feedback Ecology of Domain Expertise

The reliability of experienced intuition depends partly on the environment in which experience was acquired. Kahneman and Klein identify two important conditions for the development of skilled intuitive judgment: sufficiently valid regularities in the environment and adequate opportunities to learn those regularities through prolonged practice and feedback [10]. Their analysis is especially useful here because it permits a differentiated account of expertise. Experience can support rapid recognition in some domains while providing weak grounds for intuitive confidence in others.

The paper therefore uses the term *feedback ecology* for the structure through which judgments encounter correction. The expression is a conceptual proposal developed in this paper; Kahneman and Klein supply the narrower conditions concerning environmental regularity and opportunities for learning. A feedback ecology includes the delay between judgment and outcome, the observability of errors, the availability of comparison cases, the stability of the underlying environment, the incentives for acknowledging mistakes, and the quality of records through which earlier judgments can be reconstructed.

Some scholarly environments offer relatively strong feedback. A mathematical proof can fail under checking; an experiment can be repeated; a prediction can be evaluated against specified data; a textual claim can be challenged by an archival source. Other scholarly judgments have slower or more ambiguous feedback. Claims about long historical trajectories, institutional change, cultural transformation, or emerging research directions may take years to assess and can remain open to competing interpretation. Situational judgments in politics, diplomacy, organizations, or social life can be still harder to calibrate because the observer's own actions alter the situation and clean counterfactuals are unavailable.

Expertise should therefore be scoped to the environment that trained it. A scholar may possess excellent judgment about whether a proof strategy is promising, whether a literature has reached conceptual exhaustion, or whether a developing research question is unusually generative. The same person may have much weaker grounds for confidence about a geopolitical trajectory or an unfamiliar institutional setting. Conversely, a practitioner with deep situational experience may detect relational changes that an academic conceptual vocabulary misses while remaining poorly positioned to evaluate a specialized scientific claim.

This domain dependence reinforces the paper's non-binary comparison. Neither the traditional sage figure nor the historically generative scholarly role should be idealized as implying globally transferable discernment. Mature judgment includes recognizing where one's feedback ecology supports confidence and where it supports only attention, conjecture, or deference to other forms of expertise.

6.5 Epistemic Restraint in Pattern-Sensitive Practice

Epistemic restraint is sometimes described as withholding belief. In this framework it has a more active structure. Restraint preserves the distinction among observation, interpretation, confidence, and response while keeping potentially significant material available for later revision. It is therefore compatible with curiosity, precaution, and practical movement.

Several practices follow from this conception. First, observations can be recorded before they are integrated into a preferred narrative. A record may distinguish what occurred, what drew attention, what interpretations were considered, and what confidence attached to each interpretation. Such separation reduces the tendency for later outcomes to rewrite the original encounter.

Second, rival interpretations can be preserved deliberately. The objective is not to generate an indefinitely large list of possibilities. It is to prevent the first compelling account from monopolizing subsequent attention. A small set of materially different explanations can make discriminating evidence easier to identify.

Third, confidence can be expressed in graded language. A phenomenon may be worth monitoring while remaining weak evidence for a broader claim. A problem may be intellectually generative while its proposed mechanism remains conjectural. A situation may justify precaution while the causal interpretation remains unsettled. Graded confidence allows action and assertion to be calibrated separately.

Fourth, judgment can be evaluated prospectively where possible. If an observer believes that several weak signals indicate a developing configuration, recording the expectation before the outcome creates a more informative basis for later learning. The record should include alternative outcomes and conditions that would count against the interpretation. This practice cannot remove all hindsight effects, yet it improves the traceability of revision.

Fifth, calibration benefits from social challenge. Different observers carry different histories of attention and different associative priors. Criticism from persons who do not share the initial salience judgment can expose hidden assumptions, missing comparison classes, or neglected evidence. The aim is not to replace individual sensitivity with consensus. It is to create routes by which private salience can encounter public correction.

Sixth, responses can be designed for reversibility when uncertainty remains high. A weak signal may justify collecting data, preserving documents, opening communication, conducting a small pilot, or preparing a contingency without requiring a strong public prediction. Reversible responses preserve practical responsiveness while limiting the cost of false attribution. This point links epistemic calibration to temporal judgment: the appropriate response to uncertainty can change as evidence accumulates and as opportunities close.

Definition 6.1 (Calibration of pattern-sensitive judgment). In this paper, *calibration* denotes the revisable relation among a judgment's confidence, its evidential support, the structure and cost of possible errors, the quality of available feedback, and the reversibility of the response it motivates. Calibration is therefore broader than statistical probability calibration. The definition concerns the proportionality and corrigibility of orientation under uncertainty.

Definition 6.1 places error management inside mediated judgment. A calibrated observer can remain highly sensitive while using modest claim language, or can act early while maintaining causal uncertainty. Conversely, an observer can be rhetorically cautious while remaining poorly calibrated if only confirming cases are preserved or if failed interpretations never alter future confidence.

Calibration of belief and calibration of response should nevertheless remain distinguishable. Evidential support constrains the confidence appropriate to descriptive, causal, or predictive claims. Action thresholds additionally depend on the asymmetry of possible losses, role-specific duties, reversibility, and the time available for correction. A low-confidence interpretation can therefore justify a low-cost reversible precaution without licensing a strong causal assertion. Conversely, comparatively strong evidence does not by itself authorize a costly or normatively impermissible intervention. This distinction keeps epistemic calibration connected to, while still separate from, normative, situational, and temporal judgment.

6.6 Calibration in the Scholar–Sage Comparison

The calibration analysis changes the comparative question developed in the first half of the paper. The comparison between the historically generative scholarly role and the traditional sage figure concerns the learning environments, feedback structures, and error disciplines that shape judgment within their different relational settings. Both figures can rely on accumulated pattern sensitivity, contextual memory, aesthetic discrimination, reflective assessment, and practical inference. The analytically important questions concern what kinds of regularities their practices encounter, what feedback is available, how error is recorded, what standards govern public claims, and how easily interpretations can be revised.

Scholarly institutions can provide formal mechanisms of correction through criticism, replication, proof, archival checking, methodological transparency, and explicit citation. These mechanisms are unevenly distributed across fields and can themselves fail. Their epistemic significance lies in making at least some judgments inspectable beyond the individual observer. Sage-oriented traditions can emphasize cultivated attention, timing, historical memory, relational awareness, and disciplined conduct. Their epistemic strength, where present, likewise depends on whether experience supplies reliable feedback and whether failed interpretations remain visible enough to correct future judgment.

The comparison therefore becomes more precise when separated into three layers. At the level of *phenomenology*, both a scholar with relevant experience and a person acting within a sage-oriented practice may experience a minor event as unusually significant. At the level of *practice*, they may differ in how the event is preserved, interpreted, tested, communicated, and translated into action. At the level of *warrant*, neither the intensity of the experience nor the cultural authority of the role establishes the reliability of the inference. Warrant depends on evidence, argument, feedback, and the conditions under which the relevant judgment was learned.

This layered account preserves what is philosophically valuable in the comparison without requiring a choice between romanticization and dismissal. Traditions of sagehood can be read as repositories of questions about attentiveness, timing, self-cultivation, and responsiveness to changing relations. Modern scholarship can contribute explicit practices for criticism, evidential differentiation, and public revision. Each can illuminate dimensions of judgment that the other may underemphasize. Their comparison becomes fruitful when the forms of sensitivity are examined together with the disciplines that regulate their errors.

Calibration also prepares the argument of the next section. A disciplined observer does not need to resolve every contingency immediately. When evidence remains ambiguous, one possible output of mature judgment is to preserve the encounter, record the unresolved alternatives, and wait for a more informative configuration. Deferral can therefore function as an active epistemic practice with its own evidential and temporal rationale. Section 7 develops preservation, deferred judgment, and timing as positive components of a practical epistemology of contingency.

7 Temporal Preservation in Unresolved Judgment

This section develops deferral as a positive output of mediated judgment. Its role is to specify what mature practice can do when a contingency appears significant while its interpretation remains undetermined. The objective is to distinguish reasoned deferral from avoidance, to clarify the epistemic function of preservation, and to show how timing changes the relation among inquiry, action, communication, and commitment. The discussion proceeds conceptually, drawing on the calibration framework of Section 6 and the temporal vocabulary developed in Section 3. It first characterizes deferral as an accountable judgment state, then examines preservation, active preparation, temporal closure, and criteria for renewed commitment. The section concludes by locating these practices within the overlapping practices available within the scholarly role and the traditional sage figure.

7.1 Deferral as an Accountable Judgment State

A pattern-sensitive observer often encounters situations in which the available reasons support continued attention without supporting a settled interpretation. The weak signal may be real while its mechanism remains unknown. An anomaly may be reproducible while its theoretical significance remains unclear. A change in institutional behavior may be consequential while several competing explanations remain plausible. Under such conditions, mature judgment requires an output that preserves significance without converting significance into certainty.

Deferral provides such an output when it is supported by identifiable reasons. It differs from simple indecision in at least three respects. First, the unresolved object is specified. The observer can specify the unresolved uncertainty and the decision that remains open. Second, the grounds for withholding stronger commitment are articulated. These grounds may include insufficient evidence, poorly discriminated alternatives, unstable background conditions, low-quality feedback, or a temporal horizon in which more informative observations are likely to become available. Third, the deferral remains linked to a revision path. The observer identifies what kinds of evidence, events, deadlines, or changes in stakes would justify reconsideration.

Deferral can therefore be highly structured. A researcher may judge that an unusual empirical result deserves preservation and replication before theoretical interpretation. An organization may judge that

several minor changes deserve monitoring while declining to issue a strong public forecast. A diplomat may record a shift in language, compare it with earlier formulations, and seek additional context before attributing a strategic change. In each case, the judgment concerns the present relation between evidence and commitment. It does not imply that the phenomenon lacks importance.

The distinction is important because uncertainty can be handled in opposite but equally problematic ways. One response is premature closure: an observer selects a single interpretation because ambiguity is uncomfortable or because institutional routines demand a conclusion. Another response is indefinite suspension: the observer repeatedly invokes uncertainty to avoid responsibility even as evidence accumulates or decision windows close. Accountable deferral occupies a narrower region. It preserves unresolved possibilities while remaining sensitive to the changing cost of continued delay.

Definition 7.1 (Accountable deferral). In this paper, *accountable deferral* is a provisional judgment state that preserves a potentially significant contingency while withholding stronger interpretation or commitment for stated epistemic or temporal reasons. The deferral records what remains unresolved, the grounds for waiting, the practices used to preserve or improve later judgment, and the developments that would warrant renewed commitment. Its accountability therefore lies in a traceable revision path rather than in delay by itself.

Definition 7.1 makes deferral inspectable. An observer can later ask whether the stated reasons for waiting were appropriate, whether the anticipated evidence arrived, whether the interpretation changed in response, and whether the delay preserved or reduced practical options. Deferral thereby becomes an explicit part of the record of judgment and remains available for retrospective evaluation.

7.2 Preservation of Pretheoretical Material

Deferral depends on preservation because unresolved contingencies are vulnerable to disappearance. A minor observation can be forgotten when it fails to fit an established problem space. A later outcome can reshape memory of what initially appeared salient. A developing theory can retroactively organize earlier traces so completely that competing interpretations become difficult to reconstruct. Preservation protects against these losses by maintaining access to material before it has been fully absorbed into a preferred explanation.

Preservation has several possible objects. The first is the observation itself: what occurred, where, when, and under what conditions. The second is the local context that made the observation noticeable. A change in wording, for example, becomes more interpretable when the prior wording, institutional setting, speaker, audience, and timing are retained. The third is the observer's initial response. Recording why something drew attention can later reveal whether salience came from domain knowledge, aesthetic tension, normative concern, personal expectation, or an accidental association. The fourth is the set of materially distinct interpretations that remained open at the time.

These layers should remain distinguishable where feasible. Preservation loses epistemic value when the record already fuses observation and explanation. A note such as "the organization is preparing to withdraw" contains a stronger interpretation than a note recording the specific staffing change, cancelled meeting, revised statement, or budget movement that generated the concern. The interpretive sentence may still be worth recording, but it should remain identifiable as an interpretation. This separation allows later evidence to revise the inference without erasing the event that motivated it.

The practice is closely related to the prospective discipline developed in Section 6. Prospective records constrain hindsight reconstruction because they preserve the uncertainty that existed before an outcome selected among possibilities. Their role is especially important in domains where meaningful changes are rare, feedback is delayed, or the same observer participates in the situation being interpreted. In such settings, memory alone offers a weak basis for learning from judgment.

Preservation also has a generative function. A contingency that cannot yet support a theory may later become intelligible when other observations accumulate. An unresolved note can acquire significance after a new method, concept, dataset, historical source, or comparison case becomes available. The value

of preservation therefore exceeds error control. It maintains a reservoir of partially interpreted material from which later problems can emerge.

This point reconnects the paper to scholarly problem formation. A problem space is partly shaped by what a community has preserved. If only observations that already fit accepted categories are retained, future inquiry inherits a filtered archive whose exclusions may be difficult to detect. Preserving anomalies, failed attempts, marginal observations, and unresolved comparisons can enlarge the material from which later scholars form questions. Such preservation does not make each item equally important. It keeps some items available long enough for their importance to become judgeable under changed conditions.

7.3 Temporal Horizons of Unresolved Judgment

Waiting changes the situation in which judgment occurs. Evidence may accumulate, disappear, or become inaccessible. Costs may rise or fall. Other actors may respond. Opportunities may close. The meaning of a weak signal can change as the surrounding configuration changes. For these reasons, deferral cannot be treated as a temporally neutral absence of action.

Temporal judgment concerns at least three horizons. An early horizon is dominated by uncertainty and option preservation. At this stage, an observer may benefit from documentation, low-cost inquiry, comparison, and reversible preparation. An intermediate horizon can permit stronger discrimination among interpretations as more evidence becomes available. A later horizon may involve closure because practical options, evidential access, or decision authority are diminishing. The relevant boundaries vary with the situation. Some scientific questions can remain open for decades. Some diplomatic, safety, ecological, or organizational situations may compress the relevant horizon into days or hours.

The vocabulary of *ji* examined in Section 3 is useful here because it represents a temporally incomplete change whose practical significance may lie partly in early recognition. The philosophical lesson is compatible with restraint: perceiving incipience can enlarge the available response set without determining which response is correct. An early-stage observer can improve later judgment by protecting evidence, opening channels of communication, or avoiding commitments that would unnecessarily reduce options. Timeliness can therefore include preparation for a judgment that is not yet ready.

The cost of waiting also requires explicit attention. Additional information has value only when it can arrive before relevant options disappear and when the process of waiting does not itself create unacceptable exposure. A decision maker can therefore have good reasons to act under unresolved interpretation. Precaution, contingency planning, or reversible intervention may be justified by the asymmetry of possible losses even when causal confidence remains modest. Section 5 distinguished normative urgency from epistemic warrant; the same distinction applies here. The reasons for acting can be stronger than the reasons for asserting that one interpretation is true.

Conversely, institutional pressure for speed can create artificial closure. Publication cycles, media demands, managerial reporting, political deadlines, or expectations of decisiveness can reward a settled narrative before discriminating evidence exists. Temporal judgment includes recognizing when a deadline reflects the structure of the problem and when it reflects an external demand that can be resisted, renegotiated, or satisfied with a more modest output. A defensible statement such as “the available evidence supports monitoring but not a directional conclusion” can sometimes be more informative than a forced forecast.

7.4 Active Preparation during Deferral

Deferral is compatible with substantial practical activity. The key distinction is between actions that depend on a settled interpretation and actions that improve future judgment, preserve options, or reduce exposure across several plausible interpretations. Mature practice can remain active while its central explanatory commitment remains provisional.

Several forms of preparation are especially relevant. Additional observation can improve discrimination among alternatives. Small-scale experiments or pilot interventions can generate information while

Practice	Epistemic function	Temporal function
Preserve	Retain observations, context, alternative interpretations, and initial confidence before retrospective reconstruction	Keep material available for later comparison or problem formation
Probe	Seek discriminating evidence through observation, comparison, experiment, consultation, or archival work	Use available time to reduce uncertainty before a decision window closes
Prepare	Develop reversible capacities, contingency plans, or communication channels across several plausible interpretations	Preserve future options and reduce the cost of delayed commitment
Communicate provisionally	Share the observation, uncertainty, and current confidence without presenting a settled conclusion	Coordinate attention while leaving interpretive revision possible
Commit	Select an interpretation or action when evidential, normative, or temporal reasons justify stronger closure	Act before further waiting would materially reduce warranted options or increase exposure

Table 6: Possible practices during unresolved judgment. The table treats deferral as an organized period in which preservation, inquiry, preparation, communication, and commitment can be sequenced across an unresolved interval.

limiting irreversible commitments. Archival preservation can protect traces that may otherwise disappear. Consultation with differently situated observers can reveal assumptions embedded in the original salience judgment. Communication channels can be opened before a conflict, institutional change, or research collaboration reaches a stage at which contact becomes more difficult. Contingency plans can be developed for several plausible futures without claiming that one of them is forecast with high confidence.

Reversibility is important because it connects practical response to epistemic uncertainty. An early response that is easy to revise can be proportionate even when the evidence is weak. A highly irreversible response generally requires stronger justification, although situations involving catastrophic or asymmetric risks can complicate this relation. The relevant justification is multidimensional: evidential confidence matters, while so do duties, possible losses, available alternatives, and the effects of delay. The paper therefore proposes no universal decision rule. It proposes a discipline of matching the strength and reversibility of response to the quality of evidence, stakes, responsibilities, and temporal structure.

Table 6 summarizes several outputs available during unresolved judgment. The categories overlap and their appropriateness depends on the local situation.

Table 6 shows why the binary between action and waiting is inadequate. An observer can defer one kind of commitment while advancing another kind of practice. A scholar can postpone a causal claim while collecting data. A public institution can avoid a directional forecast while preparing contingencies. A person can withhold publication while seeking criticism. Deferral concerns the level at which closure is withheld, not the absence of movement at every level.

7.5 Provisional Communication during Unresolved Judgment

Communication creates a special temporal problem because expressing an interpretation can alter the situation being interpreted. Public claims can coordinate attention, attract resources, trigger defensive responses, shape reputations, or harden expectations. In scholarship, an early conjecture can stimulate useful criticism while also anchoring subsequent discussion. In organizations and diplomacy, a public diagnosis can itself become part of the relational configuration. The timing and form of communication therefore belong within situational judgment.

Mature practice can use graded communication. An observer may share a raw observation with a small group, circulate a provisional hypothesis for criticism, publish a methodological note without a

substantive conclusion, or communicate a risk range while withholding a categorical prediction. These forms permit social correction while preserving epistemic status. Their value depends on audience, confidentiality, stakes, and the possibility that disclosure itself changes behavior.

Silence can likewise have several meanings. It can preserve uncertainty while evidence develops. It can avoid unnecessarily amplifying a weak signal. It can also conceal relevant information or evade accountability. The ethical status of silence therefore depends on responsibilities that extend beyond the epistemic reasons for deferral. Where others are exposed to material risks or possess legitimate claims to information, normative judgment may require communication even while interpretation remains incomplete. The appropriate output may then be an explicit statement of uncertainty.

This interaction illustrates the mediation framework of Section 5. Epistemic judgment can recommend modest confidence; normative judgment can require disclosure; situational judgment can identify likely effects of communication; temporal judgment can identify whether delay will improve or degrade the decision context. Mature judgment coordinates these considerations without pretending that they share a common unit of measurement.

7.6 Triggers for Renewed Commitment

Deferral becomes epistemically productive when it includes conditions for reconsideration. These conditions need not be numerical thresholds, although quantitative thresholds can be appropriate in some domains. What matters is that the observer can identify developments that would materially change the relation between uncertainty and response.

One trigger is evidential accumulation. Repeated observations, independent measurements, convergent testimony, replication, or the emergence of a discriminating case can strengthen one interpretation relative to alternatives. A second trigger is evidential deterioration. Records may be disappearing, access may be closing, or conditions may be changing so rapidly that waiting will reduce the quality or availability of knowledge. A third trigger is a change in stakes. A low-probability possibility may become more action-relevant when potential consequences increase. A fourth trigger is temporal closure: a decision window, publication opportunity, legal deadline, ecological threshold, or relational opening may be approaching. A fifth trigger is configurational change. New actors, constraints, alliances, technologies, or institutional rules can alter what earlier evidence means.

Renewed commitment can also take different forms. The observer may strengthen a claim, abandon an earlier interpretation, redesign the inquiry, act while retaining explanatory uncertainty, or conclude that the contingency no longer deserves attention. The relevant standard is responsiveness to the accumulated record. A mature deferral should make later revision easier to trace because the earlier alternatives and reasons for waiting remain visible.

This traceability is especially important for learning from error. If a later outcome confirms an initially salient possibility, the prospective record can show whether the observer assigned it high confidence or merely considered it one among several possibilities. If the outcome contradicts the favored interpretation, the record can reveal which assumptions failed. In both cases, preservation converts temporal distance into a source of calibration and limits retrospective self-justification.

7.7 Deferred Judgment within the Role Comparison

The practice of deferral further weakens any rigid contrast between scholarly inquiry and sage-oriented situational judgment. Scholarly practice often depends on the capacity to keep an anomaly alive before a stable problem or theory exists. Laboratory notes, unresolved mathematical cases, archival fragments, failed experiments, marginal observations, and provisional conceptual distinctions can remain dormant until a later configuration makes them significant. More accomplished enactment of the scholarly role can therefore involve a cultivated tolerance for incompleteness together with practical methods for preserving what remains unresolved.

The traditional sage figure contributes a different emphasis. Classical representations of attentiveness to incipient change often connect perception with timing, position, and the appropriateness of response.

Within the present reconstruction, their philosophical value lies partly in the idea that recognition does not automatically prescribe immediate maximal action. The appropriate response to an early change can include waiting, preparing, adjusting position, speaking, remaining silent, or gathering further indications. This repertoire gives temporal judgment a practical orientation that complements scholarly preservation.

The overlap lies in disciplined non-closure. Both configurations can treat an unresolved contingency as worthy of continued relation without insisting that its meaning is already known. Both can preserve sensitivity while reducing the pressure to narrate every weak signal as a determinate pattern. Their mature forms also remain corrigible. Waiting can become avoidance, preservation can become hoarding, silence can become irresponsibility, and reverence for subtle signs can become self-confirming pattern attribution. The calibration requirements of Section 6 therefore remain active throughout the period of deferral.

Temporal preservation also clarifies the broader epistemological direction of the paper. Knowledge production does not begin only when a stable question has been formulated. Before a question enters a discipline, someone may have noticed an anomaly, retained a trace, resisted premature explanation, revisited it after other changes, and eventually judged that the material could support inquiry. The archive of knowledge is therefore preceded by less visible practices of attention and preservation. Some contingencies become problems because they survive long enough to be reconsidered.

The next section develops this implication as a practical epistemology of contingency. Its concern is the larger architecture within which encounters become objects of attention, judgment, inquiry, preservation, or action. The central issue is no longer only how a scholar or sage responds to a particular weak signal. It is how persons and institutions can organize relations to a world whose significance is only partially given at the moment of encounter.

8 Architecture of a Practical Epistemology of Contingency

This section develops the paper's preceding analyses into a provisional practical epistemology of contingency. Its role is synthetic: the earlier sections examined selective attention, scholarly problem formation, incipient change, situational configuration, mediation among modes of judgment, calibration, and temporal preservation as partially distinct practices. The present objective is to specify the larger epistemic architecture within which those practices become intelligible as responses to encounters whose significance is only partly available at the time they occur. The discussion is a conceptual and architectural proposal with deliberately limited epistemological scope. It first identifies a domain of inquiry prior to stable problem formulation, then distinguishes several transformations of contingent encounters, examines inherited problem spaces as historically filtered projections, considers preservation infrastructures and institutional conditions, and concludes by stating the competencies and limits of the proposed framework.

8.1 An Epistemic Domain Prior to Stable Problems

Much epistemological analysis begins after an object of inquiry has already acquired a recognizable form. A proposition is available for evaluation, a hypothesis can be tested, a question has been formulated, or a decision problem has been specified. These are indispensable objects of epistemic analysis, yet this paper has concentrated on an earlier interval. A person first encounters a change, anomaly, relation, interruption, or coincidence whose significance remains unsettled. The encounter may later support a research problem, a situational diagnosis, a practical response, or no sustained attention at all. At the moment of encounter, however, these outcomes are not yet fixed.

Dewey's account of inquiry begins from an indeterminate situation and traces how inquiry gives that situation a problematic form [5]. The present proposal takes a related concern in a narrower direction. It asks what practices govern the interval in which something has become salient enough to interrupt

ordinary attention while its epistemic status, practical relevance, and appropriate mode of treatment remain incompletely specified. Sections 2 and 5 showed that this interval can involve aesthetic, epistemic, normative, historical, systemic, situational, and temporal judgments before a stable research question exists.

The term *practical epistemology of contingency* names this domain in Definition 8.1.

Definition 8.1 (Practical epistemology of contingency). A practical epistemology of contingency is the study of practices by which persons or institutions recognize, preserve, transform, test, communicate, or act upon encounters whose significance remains incompletely specified at the time of encounter. Its object includes the organization of attention before stable problem formulation, the calibration of interpretations under uncertainty, and the temporal management of unresolved significance.

Definition 8.1 is intentionally procedural. It does not claim that contingency is a distinct ontological kind, nor does it identify every surprising event with a latent pattern. The term marks an epistemic relation: an encounter arrives with more possible interpretations than the observer can presently warrant. The practical problem concerns how to maintain an appropriate relation to that underdetermination.

This domain also differs from a general theory of intuition. Intuition may contribute to early salience, especially in environments where experience has reorganized perception, yet Sections 4 and 6 emphasized that intuitive sensitivity depends on domain structure, feedback quality, and opportunities for learning [10]. A practical epistemology of contingency therefore includes intuition among its possible inputs while retaining calibration, explicit alternatives, prospective records, and revisability as safeguards against unwarranted confidence.

8.2 Transformations of the Contingent Encounter

A contingent encounter can undergo several epistemically different transformations. Scholarly problem formation stabilizes an encounter into an object that can support sustained and publicly criticizable inquiry. Situational orientation organizes relations among changing conditions without requiring that they first become a disciplinary problem. Preservation retains observations or interpretations whose later significance remains open. Provisional communication distributes attention while maintaining uncertainty. Reversible preparation changes practical readiness without requiring explanatory closure. Release from sustained attention is also an important possibility, because a mature practice cannot preserve or investigate every anomaly.

These outputs should not be understood as stages in a universal sequence. An observer can preserve material before formulating a problem, communicate a provisional concern while withholding a causal interpretation, or act on asymmetric risks while continuing to investigate the mechanism. A single encounter can also move among several outputs as evidence and circumstances change. Figure 2 represents this architecture as a branching and revisable organization with several possible paths and returns.

Figure 2 clarifies two features of the framework. First, significance and response are mediated through several judgments after an encounter becomes salient. An event can be striking while remaining evidentially weak, ethically urgent while causally unclear, or historically familiar while situationally different. Second, the architecture contains loops. Later evidence can reorganize an earlier observation, a preserved fragment can become a research problem, and a situational response can generate new questions. Practical epistemology therefore concerns trajectories of relation to an encounter across time.

8.3 Inherited Problem Spaces as Filtered Projections

The distinction between encounter and stabilized problem has consequences for how inherited knowledge is interpreted. Textbooks, canonical literatures, established research programmes, and disciplinary curricula typically present problems after substantial historical filtering. A question that reaches a textbook has usually passed through earlier acts of attention, articulation, criticism, institutional selection, preservation, and pedagogical compression. This does not make the resulting problem artificial. It means that

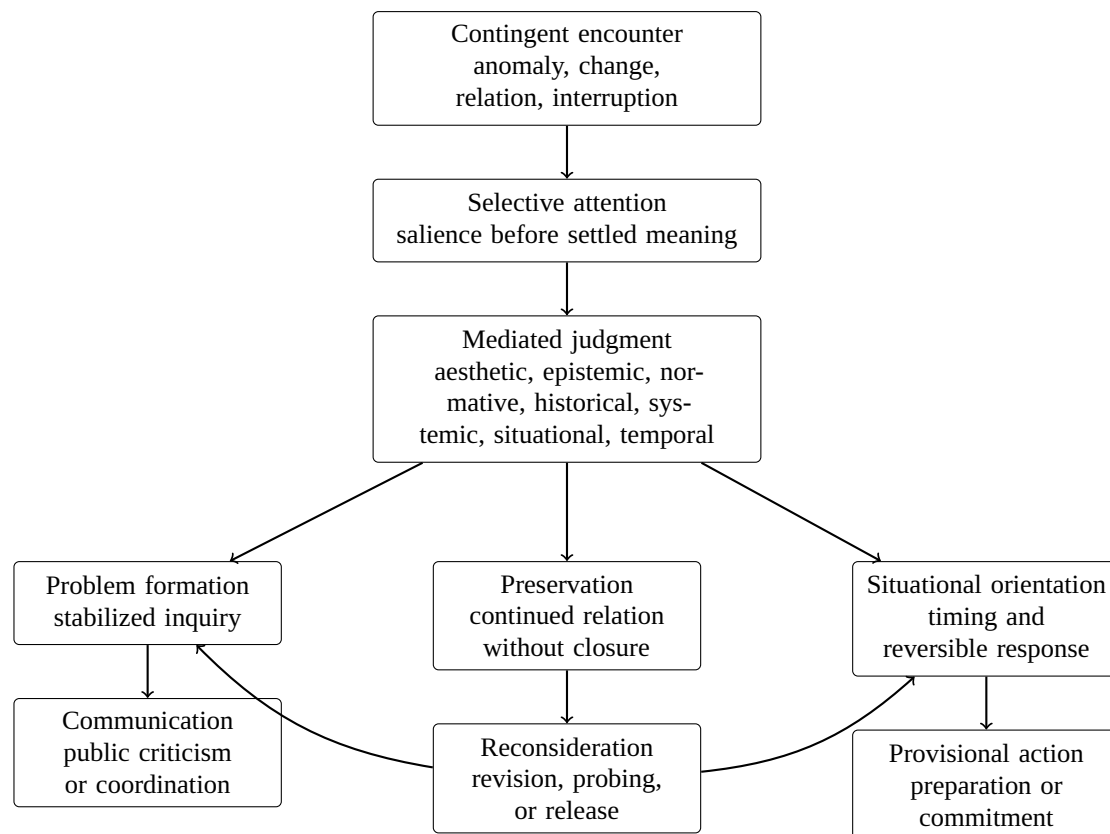


Figure 2: A practical epistemic architecture for contingent encounters. The figure distinguishes several possible transformations of salience and emphasizes that preservation, inquiry, orientation, communication, and action can be revised or recombined as conditions change.

the visible problem space is a historically selected projection of a much larger field of possible encounters and formulations.

Kuhn's analysis of normal science is relevant at this point because paradigms organize exemplary problems, legitimate puzzles, and standards of solution within scientific communities [12]. This argument extends the issue backward toward problem formation. Before a puzzle can be normalized within a field, someone or some community must have rendered a phenomenon sufficiently intelligible and significant to enter collective inquiry. The later stability of the problem can conceal this earlier contingency.

This concealment can be pedagogically productive. Students generally cannot reconstruct the full genealogy of each theorem, experiment, conceptual distinction, or empirical question before learning to use it. Compression makes cumulative learning possible. The epistemic risk appears when compression is mistaken for natural givenness. An inherited question can then appear to have been directly supplied by the world, obscuring the historical selection among possible descriptions, scales, values, and objects of attention.

The paper therefore proposes a distinction between the *world of encounter* and an *inherited problem space*. The first term refers to the open field in which phenomena can become salient before their research significance is stabilized. It does not name an unmediated world available outside language, perception, instruments, or prior concepts; it marks a relative difference between encounters whose problem form remains open and questions whose intellectual form has already been stabilized. The second term refers to the repertoire of questions, categories, methods, and exemplary problems available to an inquirer through disciplinary and cultural inheritance. Scholarly inquiry benefits from access to both. The inherited problem space supplies accumulated distinctions, methods, error corrections, and historical memory. The world of encounter supplies the possibility that inherited distinctions may be insufficient, mis-scaled, normatively narrow, or simply inattentive to an emerging phenomenon.

This relation explains a risk associated with exclusively text-mediated learning. Extensive reading can greatly enlarge the inherited problem space, yet reading alone can also make that space appear self-sufficient when the learner rarely encounters phenomena before they have been organized by someone else's questions. The relevant concern is not opposition between books and experience. Books are among the most powerful means by which earlier judgment is preserved. The concern is epistemic asymmetry: the reader receives the products of prior filtration more readily than the filtration process itself.

A practical epistemology of contingency therefore asks how an inquirer can inherit established problems without treating their boundaries as exhaustive. Historical study can partly restore the hidden process by showing why a concept or question arose in a particular configuration. Laboratory, field, archival, clinical, organizational, artistic, and ordinary observational practices can provide encounters whose significance has not yet been fully stabilized by the learner's existing categories. The resulting educational implication is modest but important: learning to solve inherited problems and learning to notice possible problems are related yet distinguishable capacities.

8.4 Preservation Infrastructures before Problem Stabilization

If some significant encounters become intelligible only later, then epistemic practice depends partly on infrastructures that preserve material before its final relevance is known. Section 7 treated preservation as an individual practice of accountable deferral. At a larger scale, preservation can also be institutional. Research notebooks, field records, archival collections, version histories, anomaly logs, specimen repositories, oral histories, meeting records, and well-maintained metadata can retain traces that later support comparison or reinterpretation.

The epistemic value of such infrastructures lies in preserving context together with content. A decontextualized observation may become difficult to evaluate because the observer's initial confidence, measurement conditions, competing explanations, and relevant absences are no longer recoverable. Prospective recording reduces this loss. It can also make later calibration more honest by distinguishing what was actually noticed from what appears obvious only after an outcome is known, a distinction that matters in light of hindsight effects discussed in Section 6 [6].

Preservation nevertheless has costs. Archives can become too large to navigate, records can reproduce the biases of institutions that decide what deserves documentation, and exhaustive retention can consume attention needed for inquiry. A practical epistemology therefore cannot equate preservation with maximal accumulation. Selection remains unavoidable. The relevant question is whether a preservation practice retains enough context and alternative interpretation to keep later reconsideration possible without pretending that every trace merits indefinite storage.

This issue also connects epistemic and normative judgment. What institutions preserve can influence which pasts remain researchable and which experiences later become visible as evidence. Decisions about documentation therefore distribute future epistemic opportunity. This paper does not offer a general ethics of archives, yet its framework makes one point clear: preservation is part of problem formation's prehistory. Some future questions can be asked because earlier observers retained materials whose eventual significance they did not fully know.

8.5 Institutional Ecologies of Attention

Attention is exercised by individuals within institutional ecologies. Disciplines, laboratories, journals, funding systems, schools, firms, governments, and other organizations allocate time, credibility, access, and memory. These arrangements can help observers discriminate signal from noise by supplying methods, peers, instruments, and historical records. They can also narrow the range of contingencies that receive sustained attention by defining legitimate objects, preferred timescales, recognized forms of evidence, and acceptable outputs.

The concept of an inherited problem space therefore has an institutional dimension. Kuhn's account of paradigmatic puzzle solving illustrates how scientific communities can stabilize productive fields of inquiry while also organizing expectations about what counts as a legitimate problem [12]. This framework

does not infer that institutional selection is inherently restrictive or epistemically suspect. Selection is necessary because collective attention is finite. The issue is whether institutions retain interfaces through which anomalies, marginal observations, or cross-domain relations can be preserved and reconsidered when they do not fit established categories.

Several institutional capacities follow from the preceding sections. One is protected exploratory attention: limited space in which a weakly articulated observation can be examined before it must satisfy the standards of a mature research programme. A second is preservation with provenance, allowing later observers to recover the conditions under which a record was produced. A third is structured dissent, through which alternative interpretations can challenge early coherence. A fourth is temporal diversity, because some problems require rapid response while others need long observation before stable formulation. A fifth is reversible experimentation, which permits learning without forcing premature large-scale commitment.

These capacities are best treated as domain-sensitive design considerations. Different domains have different error costs, feedback rates, ethical duties, and resource constraints. A hospital, an astronomical survey, a diplomatic service, a mathematics department, and an art school should not be assumed to share one optimal architecture of contingency management. The general principle is local adequacy: institutional arrangements should support sensitivity to potentially meaningful departures while preserving methods for calibration and correction appropriate to the domain.

8.6 Triadic Coordination of Epistemic Capacities

The practical epistemology proposed here can now be summarized through three mutually conditioning capacities. The first is *sensitivity*: the ability to notice potentially significant differences, relations, anomalies, or incipient changes that established routines may overlook. The second is *restraint*: the ability to preserve a distinction between salience and warrant, especially when the available pattern is compatible with several explanations or with noise. The third is *revisability*: the ability to reorganize attention, interpretation, and response when subsequent evidence or configurational change alters the situation.

Sensitivity without restraint can produce overinterpretation. Restraint without sensitivity can produce systematic blindness to early change. Sensitivity and restraint without revisability can harden an initially careful interpretation into identity or doctrine. Their coordination therefore matters more than maximal performance on any single dimension. This conclusion parallels the mediation account in Section 5: mature judgment is organized through relations among partially irreducible capacities, with no single faculty resolving every case.

Table 7 summarizes several disciplines that support this coordination across the trajectory from encounter to commitment.

Table 7 also shows the framework's practical orientation. Each epistemic moment contains an activity through which the relation between observer and contingency can be improved. The proposed disciplines remain fallible. Rival interpretations can be poorly chosen, records can omit decisive context, and revision thresholds can be strategically manipulated. Their value lies in making judgment more inspectable and corrigible, not in guaranteeing correct recognition of hidden patterns.

8.7 Scope of the Proposed Framework

The framework developed in this paper remains preliminary in several respects. First, it is philosophical and reconstructive. The comparison between the historically generative scholarly role and the traditional sage figure identifies overlapping judgment configurations; it does not establish that these figures share a single historical psychology. Classical concepts such as *ji* and *shi* are heterogeneous across texts and traditions, as Section 3 emphasized. Their use here provides conceptual resources for thinking about incipience, configuration, and timing; empirical validation of divination or prognostication lies outside the paper's claims.

Epistemic moment	Practical discipline	Characteristic failure addressed
Encounter	Notice deviations and relations while retaining ordinary explanations	Premature dismissal or indiscriminate salience
Early interpretation	Generate rival accounts and state confidence provisionally	Immediate closure around the first coherent story
Problem formation	Test whether the observation can support a tractable and worthwhile inquiry	Confusing novelty with research significance
Situational orientation	Relate evidence to configuration, timing, stakes, and reversibility	Treating a weak signal as a determinate forecast
Preservation	Record observation, context, alternatives, and uncertainty prospectively	Hindsight reconstruction and loss of provenance
Communication	Match claim strength and audience to evidential status and responsibility	Amplification, concealment, or categorical overstatement
Commitment	Specify reasons, thresholds, and revision conditions for stronger action or belief	Irreversible commitment without a correction path

Table 7: Practical disciplines within an epistemology of contingency. The table organizes recurring tasks across the trajectory of an encounter without implying that every case follows the same sequence.

Second, the framework does not propose a universal method for separating meaningful weak signals from noise. Section 6 showed why the reliability of pattern-sensitive judgment depends on environmental regularity, feedback, prospective comparison, and domain-specific error structures [10]. The architecture specifies practices that can make uncertainty more visible and revisable while an encounter is being interpreted.

Third, the framework leaves several empirical and educational questions open. Researchers could examine how scholars in different role positions actually notice and preserve anomalies, how institutions select weakly formed questions for further attention, how different documentation practices affect later problem formation, and how learners can practice sensitivity without strengthening apophenic or overconfident pattern attribution. Comparative historical work could also investigate how different intellectual traditions conceptualize the interval between noticing change and stabilizing knowledge. These questions require methods appropriate to their domains and exceed the philosophical reconstruction offered here.

Fourth, practical epistemology remains normatively incomplete without an account of whose contingencies receive attention and whose experiences are rendered preservable. Section 5 treated normative judgment as one partially irreducible mode because epistemic tractability alone cannot determine how scarce attention should be allocated. Institutionalized problem spaces can inherit earlier distributions of visibility. A fuller account would therefore need to connect problem formation to power, exclusion, responsibility, and the justice of epistemic infrastructures.

The contribution of this section is consequently architectural. It locates scholarly problem formation and sage-oriented situational sensitivity within a shared field of practices that precede and surround stabilized knowledge. In this field, mediated judgment can notice without immediately concluding, preserve without indefinitely accumulating, act without pretending to possess full explanation, and inherit established problems without treating them as the natural boundary of the world. The concluding section draws together these implications and returns to the paper’s central comparative question: the comparative contribution of approaching the scholarly role and the traditional sage figure through overlapping practices of judgment in relation to contingency.

9 Conclusion

This conclusion consolidates the paper’s comparative result, limits, and forward implications. The historically generative scholarly role and traditional sage figures can both organize practices that assign significance to events initially encountered as incidental, weak, marginal, or anomalous. The comparison is

most informative when these historically situated role configurations are distinguished by relational function while their judgment practices remain open to overlap. Scholarship recurrently stabilizes selected encounters as publicly investigable problems; sage-oriented practice recurrently emphasizes incipient change, developing configuration, timing, and practical orientation. A single episode can move between these configurations.

The distinction concerns transformations of contingency. An encounter can become a research problem when selective attention, problem finding, aesthetic salience, normative allocation, historical placement, systemic relation, and epistemic assessment give it enough structure for sustained inquiry. The same encounter can also be treated as possible incipience within an unfolding situation, where the practical task is to determine a proportionate orientation under incomplete development. These outputs differ, yet neither belongs exclusively to one kind of person. Scholarly practice can include judgment about changes in the configuration of a field, and situational sensitivity can generate questions that later support formal inquiry.

The paper has therefore proposed *mediated judgment* as a coordination of partially irreducible modes of assessment. Aesthetic judgment can nominate a phenomenon for attention; epistemic judgment regulates warrant; normative judgment allocates concern and responsibility; historical judgment enlarges the comparison set; systemic judgment examines interdependence and reorganization across a larger whole; situational judgment interprets the action-relevant configuration; temporal judgment evaluates maturity, sequence, and timing. Mediation operates through sequencing, constraint, and mutual correction. Its outputs can include inquiry, action, preservation, provisional communication, or accountable deferral.

Calibration limits the epistemic authority of sensitivity. A perceived weak signal may indicate incipient change, but it may also reflect noise, selective attention, associative coherence, or hindsight reconstruction. Calibrated pattern-sensitive judgment therefore depends on feedback quality, environmental regularity, prospective records, rival interpretations, graded confidence, and responses whose reversibility matches the available warrant. The classical materials used in the paper illuminate forms of attention to incipience and configuration; they do not establish the empirical reliability of divination or prognostication.

These considerations motivate the paper's broader proposal of a *practical epistemology of contingency*. Its object is the interval in which an encounter has become salient while its epistemic status, significance, and appropriate treatment remain incompletely specified. This interval contains practices that are often compressed out of finished scholarship: noticing, preserving, comparing, generating alternatives, locating observations historically and systemically, calibrating confidence, judging timing, and deciding when stronger commitment is warranted.

The proposal also reframes inherited problem spaces. Books, curricula, canons, and mature research programmes preserve indispensable achievements of earlier inquiry. Their clarity can conceal the filtering through which some encounters became durable questions while others remained marginal or disappeared. Calling an inherited problem space a historically organized projection does not imply that its contents are arbitrary or detached from the structures they successfully describe. The point is that even robust questions arrive through histories of selection, formulation, criticism, and preservation. Scholarly education therefore benefits from both sides of this relation: access to accumulated problems and opportunities to encounter phenomena whose problem form has not yet been stabilized.

Several limitations define the scope of the argument. The historically generative scholarly role is a relational-historical analytical construction, not a guarantee attached to age, rank, professional duration, or prestige. Its social function can be enacted well, poorly, or only partially. The traditional sage figure names a heterogeneous family of cultural images, not a single historical psychology and not a scholarly role by definition. The paper's relation between *ji* and *shi* is an analytical reconstruction built from historically variable vocabularies. The framework also provides no domain-independent algorithm for separating meaningful weak signals from noise. Error costs, evidence, feedback, responsibilities, and permissible forms of action differ across environments.

The next research questions follow from these limits. One concerns education: how can learners practice attention to preproblematic encounters without encouraging premature pattern attribution? A

second concerns scholarly taste: how do aesthetic and normative judgments shape which contingencies receive scarce research attention? A third concerns institutions: how do archives, funding systems, journals, schools, and organizations determine which unresolved observations remain preservable long enough to become problems? Artificial intelligence sharpens these questions because it can reduce the cost of answering already articulated questions while leaving problem formation, significance judgment, and responsibility contested.

The paper's central claim is modest. Contingency becomes intellectually and practically consequential through forms of judgment that precede settled knowledge. More accomplished practice combines receptivity to possible significance with disciplined uncertainty about its meaning. The capture of contingency is therefore a revisable practice of orientation: sustained attention to a world in which problems, configurations, and appropriate responses are still taking form.

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